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Vol. XXXV
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JANUARY, 1903.
Number I.
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THE PHOTOGRAPHIC TIMES-BULLETIN

AN·ILLUSTRATED·
MONTHLY·MAGAZINE·
DEVOTED·TO·THE·
·INTERESTS·OF·
·ARTISTIC&·SCIENTIFIC·
·PHOTOGRAPHY·

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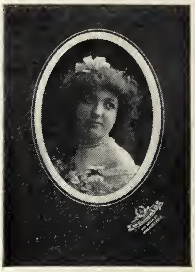

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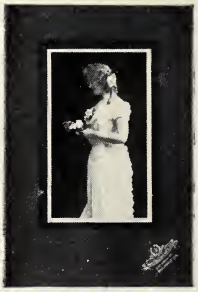

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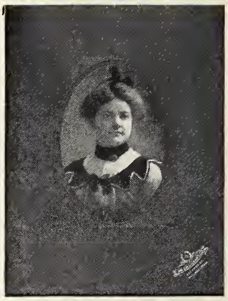

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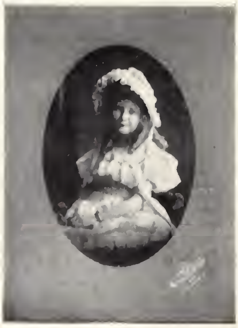

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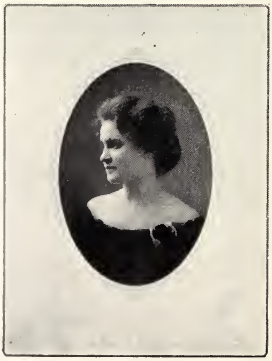

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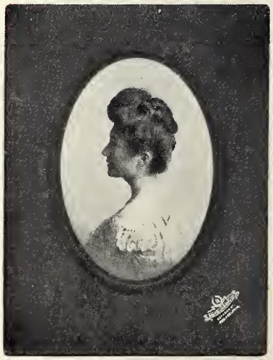

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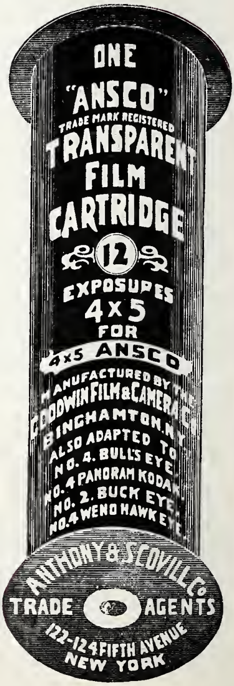

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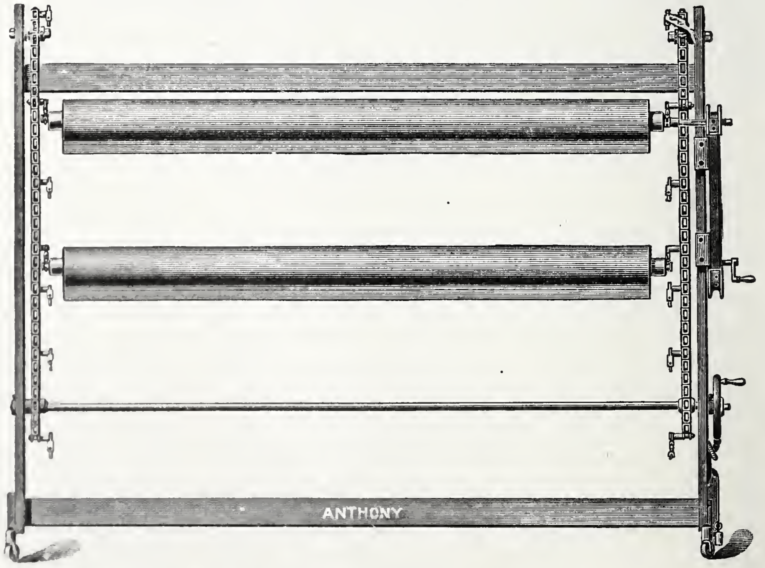

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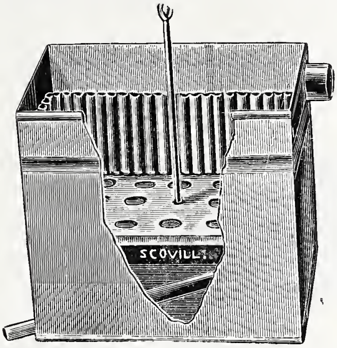

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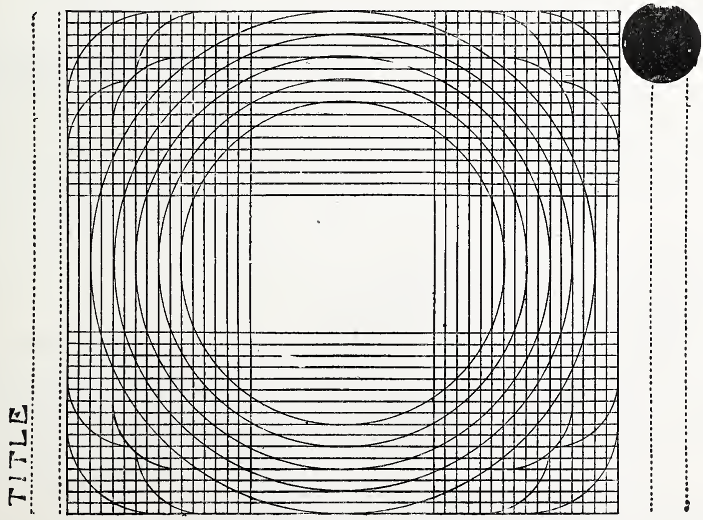

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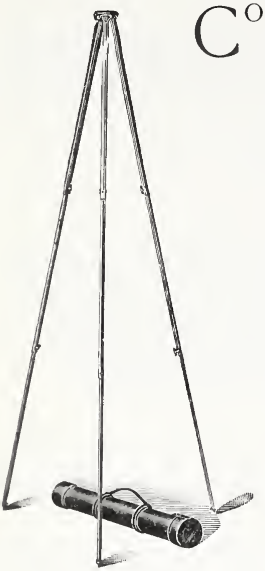

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CHAPTER III. — Dark Room and Apparatus.
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CHAPTER V.—Focusing.
CHAPTER VI.—Exposure.
CHAPTER VII.—Development.
CHAPTER VIII. — Retouching Negatives
CHAPTER IX.—Printing.
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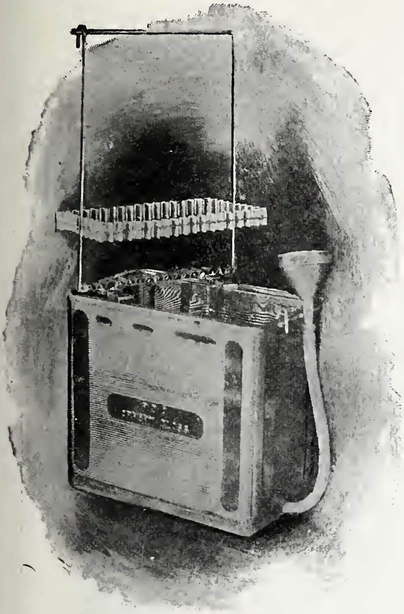

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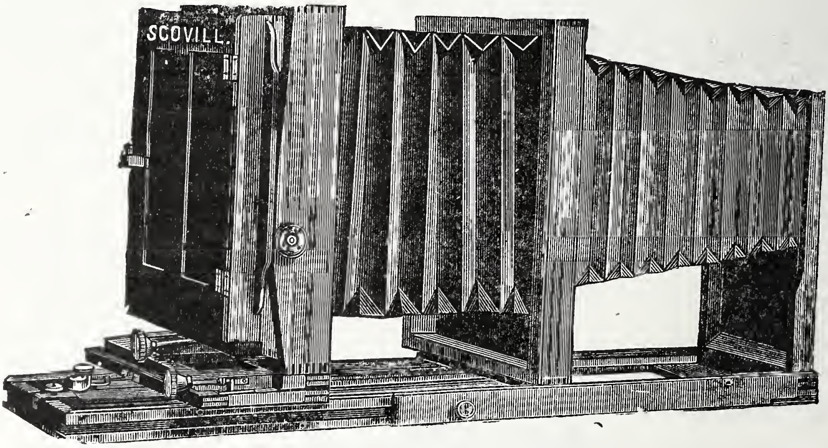

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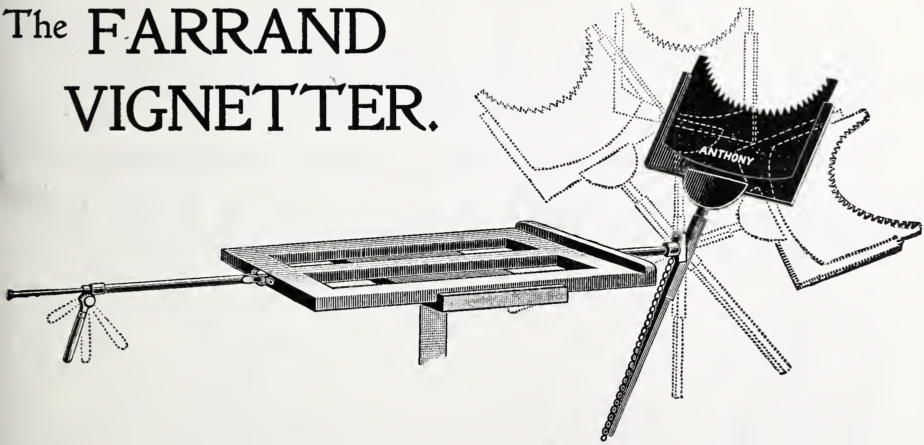

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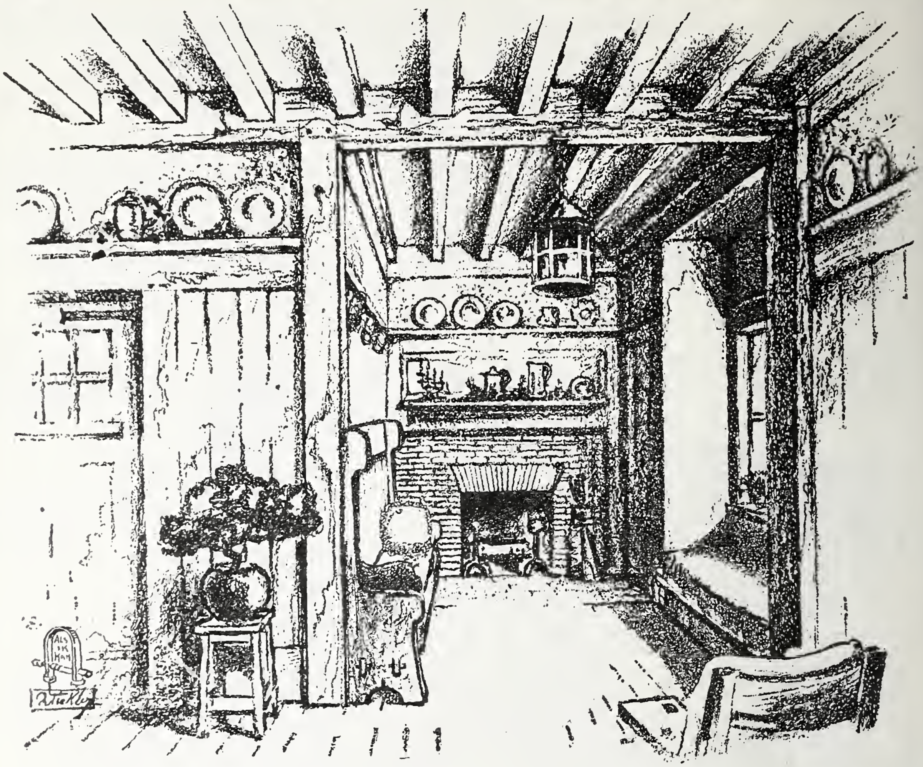

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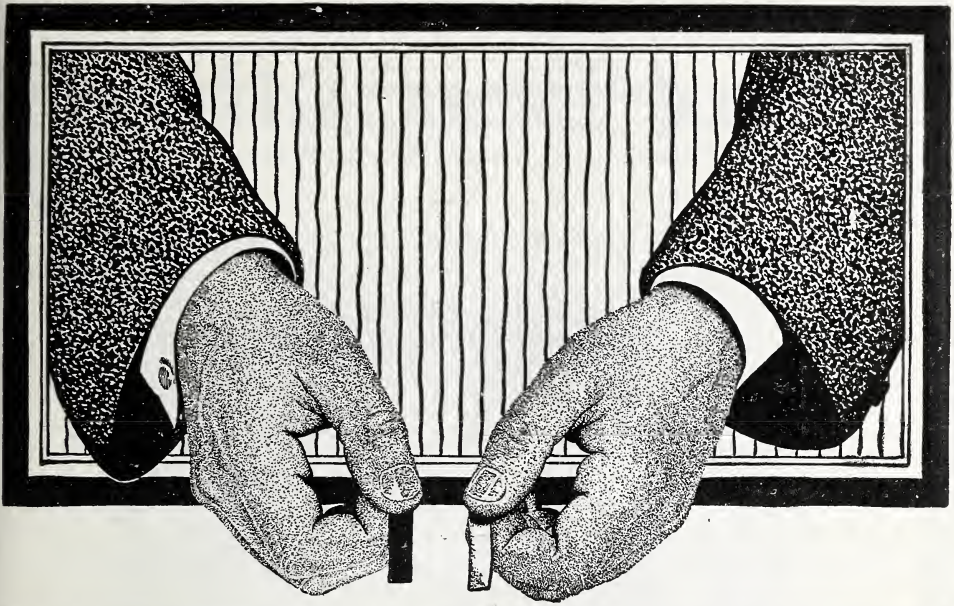

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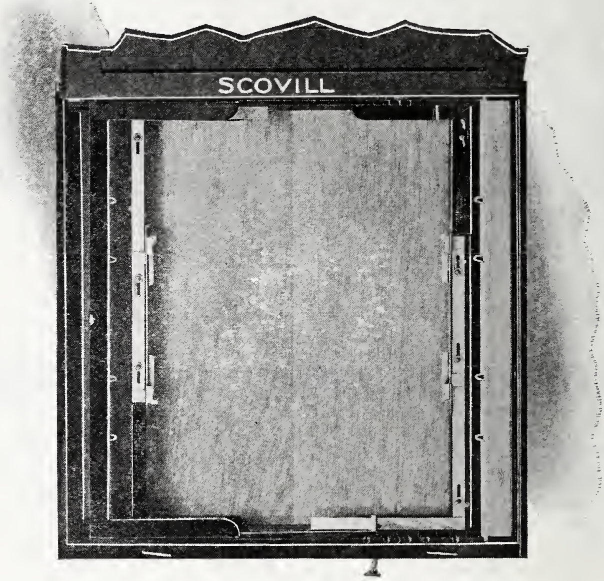

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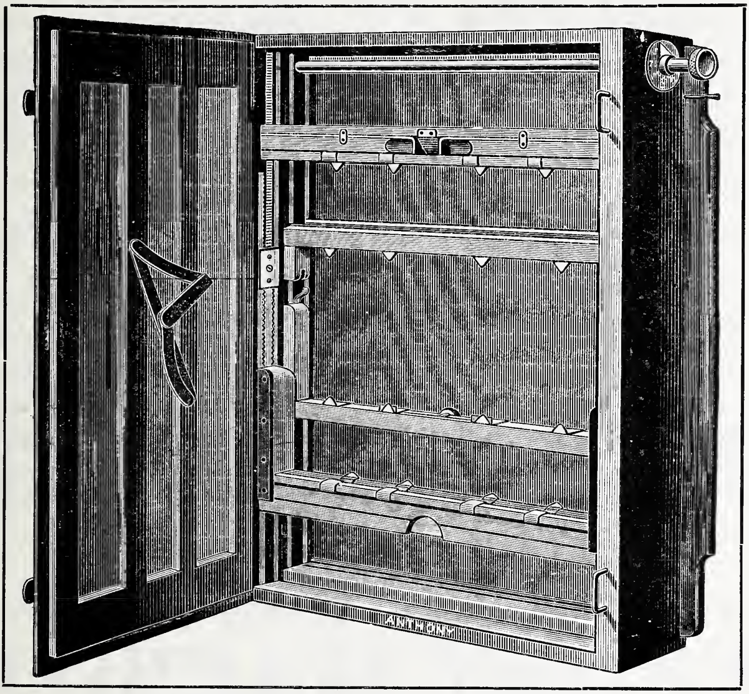

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11 x 14 .	60 00	80 00	98 00	115 00	135 00	160 00	185 00
12 x 15 .	75 00	100 00	120 00	142 00	170 00	200 00	230 00
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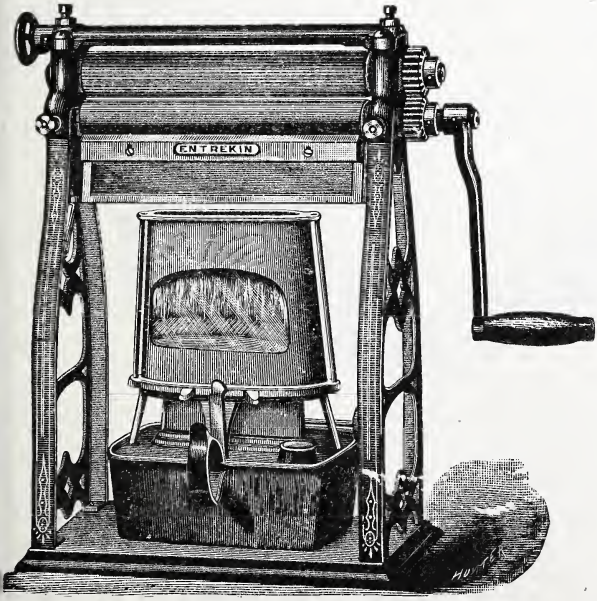

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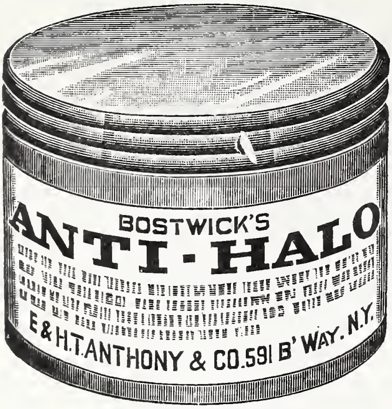
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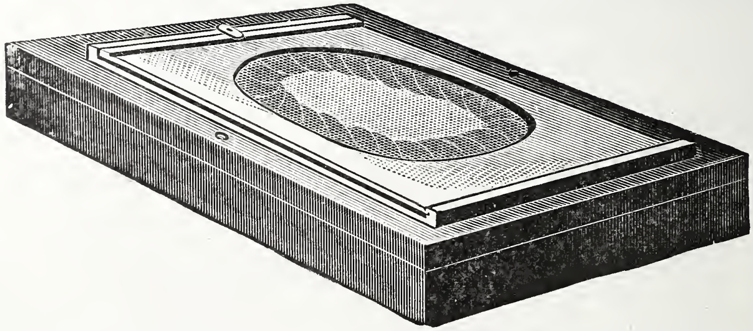

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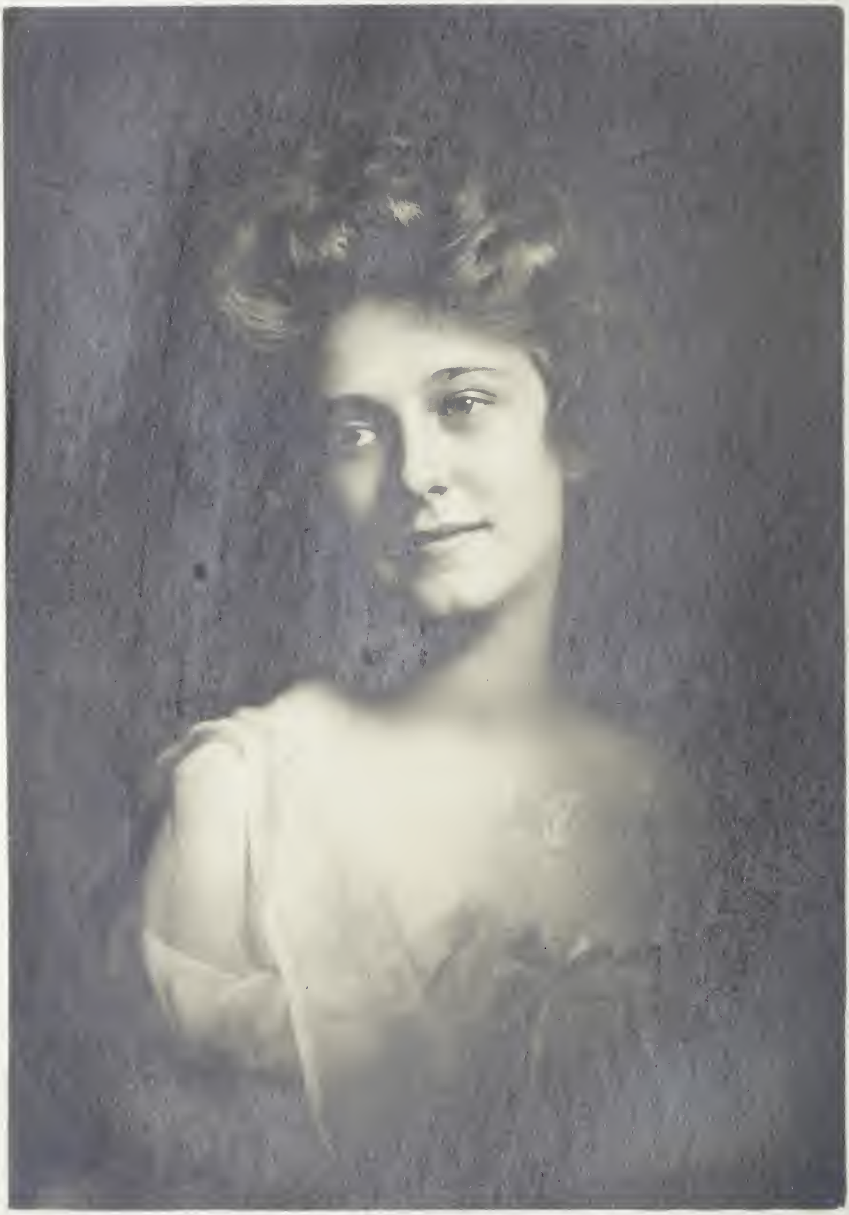

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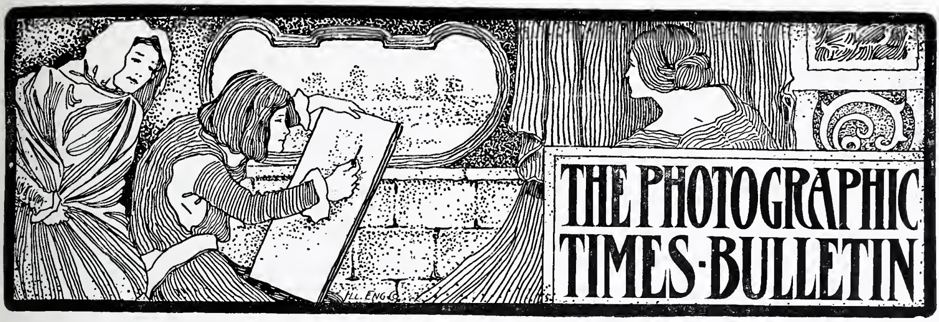
ON ART CYKO

NEGATIVE BY GARO



THE PHOTOGRAPHIC TIMES-BULLETIN

EDITORS: PROF. CHARLES F. CHANDLER, PH.D., LL.D., SPENCER B. HORD.

VOL. XXXV. JANUARY, 1903. No. 1.

SOME NOTES ON FIJI.

BY WALTER BURKE, F.R.P.S.

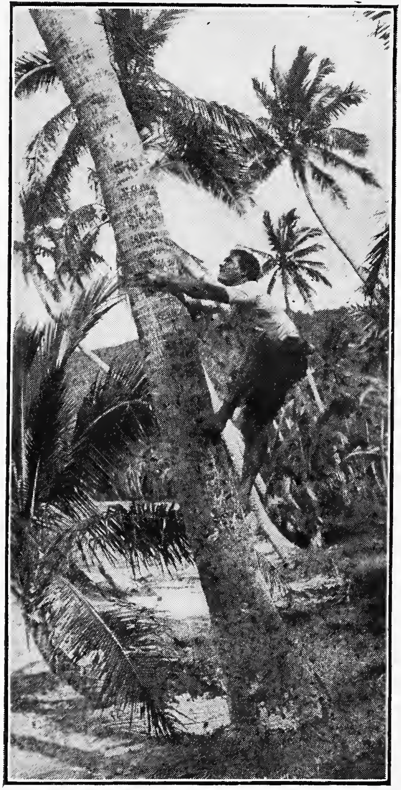
There are probably not many of your readers in the United States familiar with the Fijian Islands, a group lying some 1,100 miles to the north of New Zealand, so that a few particulars and illustrations, selected from a big series made during a recent visit, may prove interesting for The Photographic Times-Bulletin.

The group contains 250 Islands, of which about 80 are inhabited. The largest is Viti Levu, which contains 4,112 square miles. The other islands range downwards to mere rocks or coral atolls. The larger islands have fine rugged scenery, being mostly of volcanic formation; and very beautiful rivers, navigable for a considerable distance. All kinds of tropical trees and fruits flourish extremely well, and large quantities of sugar-cane are produced and turned into sugar. The principal other exports are copra, the sun-dried flesh of the cocoanut; and various fruits, principally bananas.

The population totals 119,000, but of these only 2,700 are Europeans, the balance being made up of 92,000 Fijians and 20,000 Hindoos, who, with Pacific Islanders, are imported to labor on the sugar plantations, the Fijian objecting to hard work. There is little reason why he should work. A small piece of ground produces nearly all he needs, and he lives an ideal life.

In olden times the natives were notorious cannibals, and horrible stories are told of their indulgences in this direction. One king compelled his victims to build or heat an oven in the native fashion, and when it was ready for use, had them knocked on the head and cooked. The ancient stone upon which he brained his victims is now made into a font in a large mission church at Bau (M'bau). In one of the villages a tally was kept, by erecting a stone to each victim eaten. In 1849 this tally had reached 872! But the Wesleyan missionaries succeeded in getting King Cakobau (pronounced Thakombau) to turn Christian, and on a given day he compelled his people to adopt the new religion in a body. Now, Fijians are probably the strictest Sabbatarians it is possible to meet. On Sunday they will not do a hand's turn for any one.

The members of one tribe on the Island of Beqa (pronounced M'Benga), a small place, but thirteen square miles in extent, possesses the remarkable power of being able to walk on red-hot stones with impunity. I was lucky enough to see an exhibition of this feat, and secured the only set of stereographs in existence of the various stages of it. These I have reserved for magazine work, and I cannot send any for reproduction.

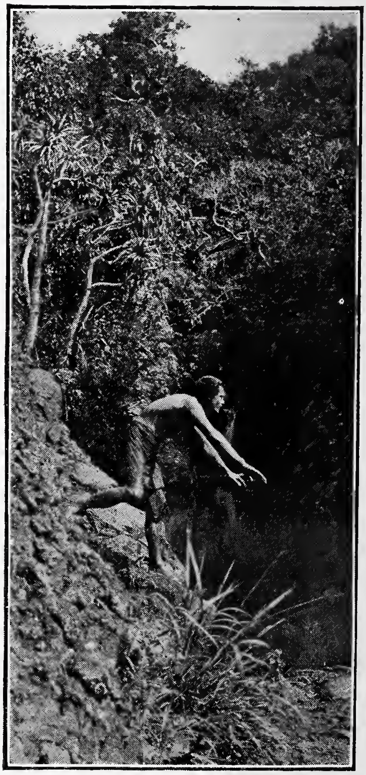


No. 8. AFTER COCOANUTS – THE START.

I have, however, chosen some little pictures which, except the initial letter and tailpiece, are from stereoscopic negatives. Of these I made over one hundred. In addition I used a 5 x 4 hand camera for general work. There is no difficulty in carrying any amount of weight in cameras, for a strapping Fijian "boy," which means a man of any age, can be secured for a whole day for two shillings (half a dollar). I found them perfectly trustworthy and capital fellows. One of my boys figures as the model in No. 8, "The Start, Climbing for Cocoanuts," and No. 7, "A Diver at Goodenough's Bath."

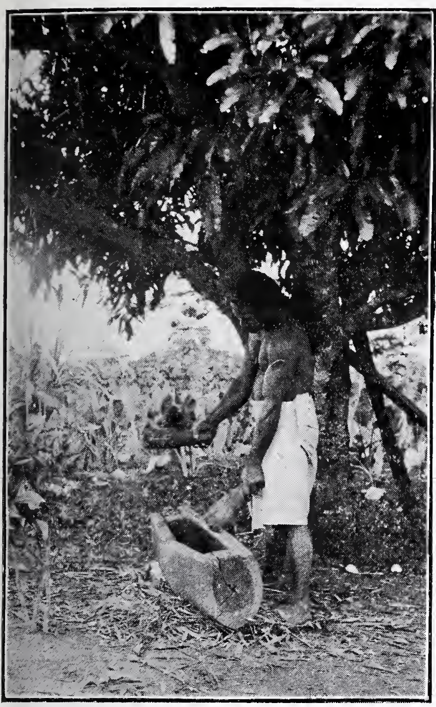
To describe the illustrations: The man seen in the initial letter has cocoanuts for sale. They are green, and each contains about a pint of a most refreshing drink, quite unlike the dried-up cocoanut of commerce one meets in the fruit stores.

Most of the menial work appears to be done by small children (No. 1), and this scene is typical of many I saw. They are pounding the flesh of cocoanut to combine with crushed sugarcane and make "Fiji pudding," which I can recommend to any visitor from personal experience.

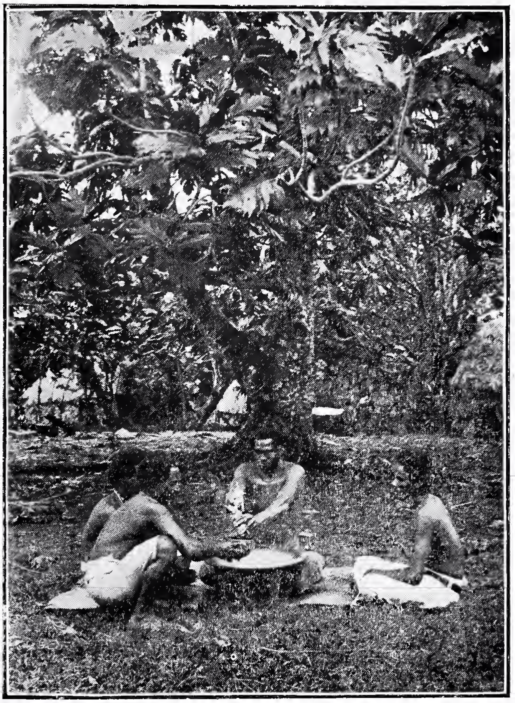


No. 7. A DIVER AT GOOD ENOUGH BATH.

Bells are little used in the Islands,



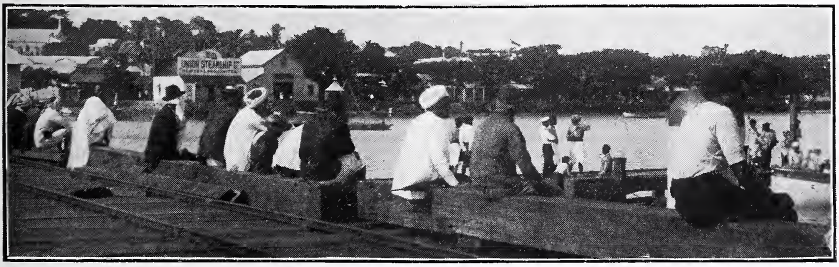
No. 2. Beating the Town Drum.



No. 10. Mixing Yagona.

but a substitute in the shape of a lali, or town drum, may be seen in every village (No. 2). It is cut out of a solid trunk of a tree. When vigorously beaten it resounds far and wide. In some places two are used at a time, skillful beaters keeping time, and producing an enormous volume of sound. Even in Suva, the capital town, one of the lalis is used for all the public purposes usually performed by the aid of a bell, such as fire alarms, etc.

Making fire by friction (No. 3) is an interesting feat, though little needed in these days. A dry sapling is selected and a short, hard piece of wood. The latter is rubbed hard along a groove, and in a very short time fire is produced.



UNION STEAMSHIP CO.

No. 11. Loiterers, Luva Wharf.

The Totoga Creek (No. 4) is close to the town of Levuka. Here the native women collect to wash clothes and talk scandal, and many interesting snapshots may be secured by waiting for a favorable opportunity.

The native houses (No. 5) are in ap-

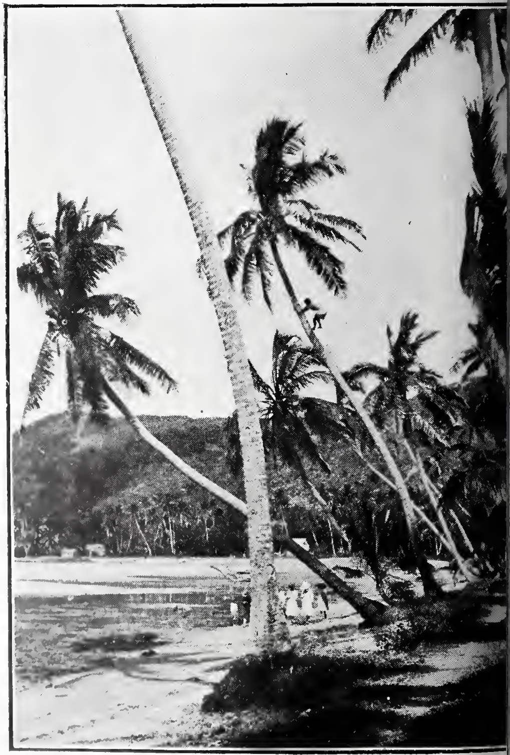
No. 1. Children Preparing Food.

pearance much like a straw stack. They are thatched all over with a thick covering of leaves and grass, attached to a framework (No. 6) of thin bamboos, tied on to uprights. They are built on a high foundation and the interiors are very clean and cool. The floors are covered with thick layers of mats. One end is raised about a foot above the rest, and is reserved for people of influence and honored visitors. The houses contain but one room, without furniture, and every one squats down on the mats.

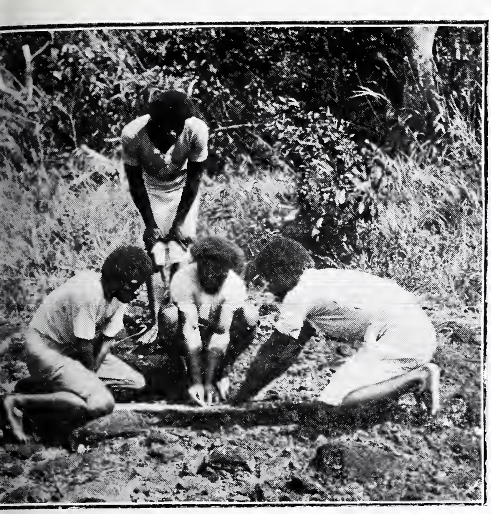
Near Levuka is Commodore Goodenough's bath, an extremely beautiful bathing place (No. 7), named after the naval officer who first utilized it. The native boys here give splendid exhibitions of diving from the precipitous rocks which surround the pool.

Climbing for cocoanuts (No 8) is always an interesting sight when seen for the first time The boys place the flat of their feet against the tree, and holding the trunk with their hands, simply walk up the tree (No. 9). This was the first time I had seen it done in this way. In the Samoan group, a loop of bark is used to hold the feet together, and in other places a rope or band of cloth is placed round the body. But a Fijian boy needs no help. He goes up very quickly and seems quite fearless.

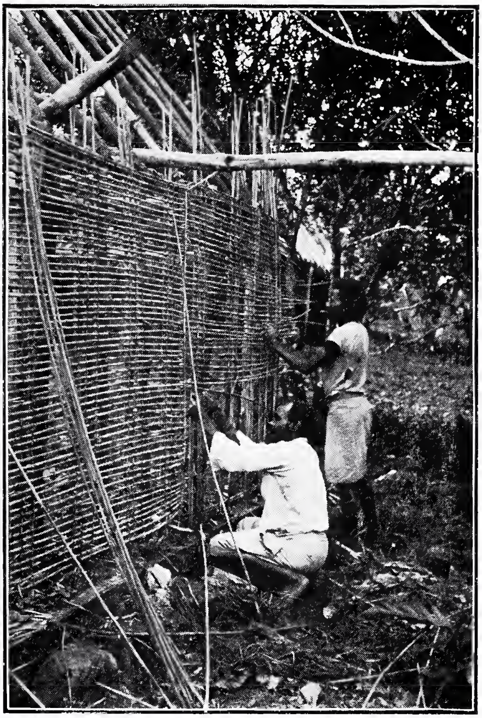
No ceremonial is complete unless a bowl of yagona (pronounced yangona) is prepared and drunk (No. 10). This drink was until recently prepared by men chewing the root of the kava thoroughly and when properly masticated expectorating the mass into the bowl. Now the root is pounded. Then water is added, and after thorough mixing the remains of the root are filtered out by a vau made of the inner bark of a tree. It tastes like a mixture of soapsuds and magnesia, but it suits the climate. Under the name of kava it is



No. 9. After Cocoanuts—Nearing the Top.

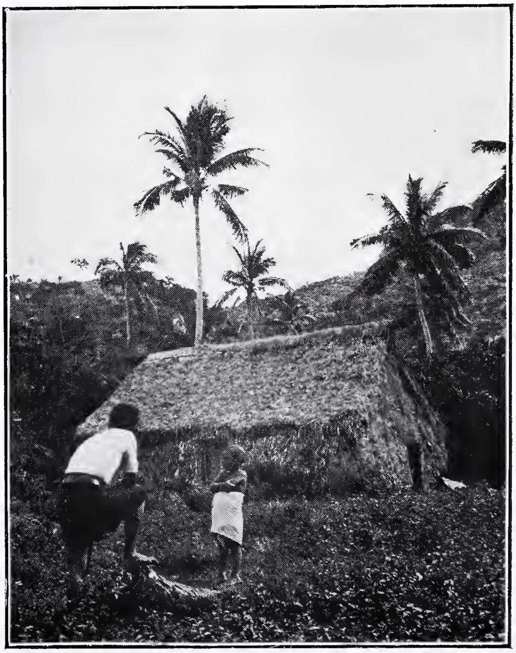


No. 3. Making Fire by Friction.



No. 6. Building a House.

No. 4. On Totoga Creek.



No 5. A Native House.

used universally throughout the Pacific. If too much is drunk it paralyses the body for a time, but leaves the brain quite clear.

People with "that tired feeling" who prefer to watch others work congregate on Suva warf (No. 11) just the same as any other part of the world, and my last illustration shows some Hindoos and Fijians watching the other fellows work.

I judged the light by the use of an actinometer and found on development its readings were absolutely correct, although I was sorely tempted at times to stake my judgment against it as the light seemed very powerful. It was, judging by my results, very much less actinic than it looked. Many of my friend's plates were hopelessly underexposed, but the actinometer saved mine for me.

* * *

REMOVAL OF FIXING SODA FROM PLATES.

BY W. RECHE.*

IT is a well known fact, that the complete removal of fixing soda from the gelatine films of dry plates by water is very difficult, and the natural consequence thereof is that many negatives will become spotty or be spoiled entirely. It will, therefore, be interesting to many beginners of the photographic art, to hear of a process by which the fixing soda can be almost entirely removed and completely faultless plates be obtained.

Prepare a solution of permanganate of potassium, about 1:100. This, well corked, will keep for an unlimited time in a dark place. Wash the fixed plates for 20 minutes in running water. Now fill a tray with water, and add a few drops of the permanganate solution, just about enough, until a faint red coloration shows itself. This solution has to serve two purposes: First, as indicator for the fixing soda that is present, and then as destroyer and remover of the same. Into this solution put the washed negative, and you will find that the red coloration of the same will soon change to a yellow wine-color or light yellow. If this has taken place, pour out the solution, and repeat the manipulation until no more discoloration takes place. Wash now for about 10 minutes in running water.

The above method is particularly of good service when larger quantities of negatives have to be finished in a short time.

---

* Translated by Henry Dietrich.

DEVELOPING PAPERS.

IN the old wet plate days the photographer dreamed of the time he would not be obliged when he went viewing, to carry impedimenta sufficient to destroy all pleasure; and he also dreamed of the time when exposures would not be of minutes duration. For many days his dreams seemed only dreams. Fortunately, however, some of his fellow sufferers were workers as well as dreamers, and finally the dry plate was invented, opening new and entrancing fields and making possible the compact, portable apparatus of to-day. Still the photographer had his troubles; if only some one would invent an *ever shining* sun and make him independent of the weather. So long as sunshine was an important factor, the professional could not depend on getting his work out on time; and many an amateur was prevented from pursuing this most delightful of recreations, owing to the fact that he had no time to print. Chemists vied with each other in attempting to produce a sensitive paper printing in the shortest possible time, but with little if any success, owing to the fact of their all working along the wrong lines, confining their endeavors to produce a paper, the image of which could be toned after printing and so rendering the image permanent.

Finally it occurred to someone, why not try and perfect a paper on which the image could be developed and fixed in a similar manner to the negative produced on the gelatine dry plate. Working along these lines, using bromide of silver in a gelatine emulsion, a large number of the so-called bromide papers sprang into existence; still there was an aching void to be filled. The bromide papers were all right for purposes of making enlargements by projection; but for use in direct contact with the negative only the most expert could produce even passable results, owing to the extreme sensitiveness of the paper to actinic light and the rapid action of the reducing agent in development, allowing little if any control and consequently loss of half tone. The bromide of silver emulsion possessed great possibilities and finally after many trials with varying success, the developing papers in use to-day were produced.

In the history of photography the professional worker has for many reasons been somewhat loath to try new methods or depart from the beaten tracks. The amateur on the other hand always delights in experimenting, trying everything new and ofttimes rushing in where angels fear to tread; but nevertheless to this self same experimenting amateur we are indebted for the rapid advancement in all branches of photography.

The amateur welcomed developing paper with open arms. Now he could make his prints at night and indulge in his hobby to the limit.

The professional, however, still remained a sun worshipper, and looked askance, though longingly at the results obtained by the tyro. Objections were advanced by the score;—no half tone, weak shadows, chalky high lights, not permanent, etc., etc.

Listening to all the complaints and objections, the chemists still persisted, till finally developing papers were perfected, and to-day the photographer stands emancipated, absolutely independent of the weather, sun and climatic conditions, and withal able to produce pictures equaling if not surpassing those produced by any other photographic process.

CHILD STUDY

By W. J. Byrne.

THE ART IN PHOTOGRAPHY.

BY W. I. LINCOLN ADAMS.

THE following is an abstract of the paper read before the Montclair Camera Club at its regular November meeting. Mr. Adams prefaced his remarks by explaining that his paper was largely composed of matter substantially as it appeared in *Camera Notes* some months ago; but it had been revised and rewritten for reading at this meeting. It was supplemented by frequent interpolated comment and suggestion, and illustrated by photographs passed among the members present, and later by lantern slides projected on the screen.

A GOOD PHOTOGRAPH.

A good photograph is more to be desired than an indifferent painting. But a photograph, simply because it resembles, in some respects, certain paintings, is not for that reason a work of art.

A photograph can reproduce certain objects much more accurately than is possible for the hand of the artist; and, except for the color lacking, is a more faithful copy of the original. This is precisely where the photograph excels the painting.

When well made the photograph is an almost perfect reproduction of its kind and stands in a class by itself, unequaled and unapproached by paintings or drawings, no matter how well they may be executed. Painters understand this superiority of photographs over their work, and do not attempt to compete with the camera and lens in their particular field.

Many photographers, however, are apparently not satisfied with what they can do so much better than the painters can; but, in an evident desire to be classed with the artists, attempt to imitate the effects of certain paintings in their photographs, and in so doing ignore the very points of advantage which they possess as photographers. They will often take more pains and trouble to circumvent, as it were, the proper and natural work of the lens and sensitive plate in this mistaken attempt to imitate the effects of paintings, than it would require to simply draw the pictures they desire, if they had the slightest technical skill as draftsmen, which they often do have.

WHAT PHOTOGRAPHERS CAN DO.

Photographers are necessarily limited by the nature of the optical and chemical processes employed by them, whereas the unfettered hand of man is almost unlimited in its capacity to express the conception of the artist. To overcome these natural limitations, occasioned by optical and chemical laws, many photographers expend more time and energy, it would seem, than might be required to get the necessary training for the hand.

The results of such attempts, moreover, to make the camera do what it cannot do, are rarely, if ever, entirely satisfactory; whereas the practiced hand of the artist can do precisely what the mind directs. It is an instrument which, with proper training, can faithfully execute the will of the artist, and put into form the creation of his imagination and the product of his thought. It is almost unlimited in its possibilities, and in practice is circumscribed only by the limitations of the artist's mind and his own previous training. The photographer can select an artistic scene, pose a figure in a picturesque attitude amid pictorial surroundings, and then by modifying the chemical processes employed to develop the plate, subordinate one part and emphasize another; and, later, by selection of the sensitive printing paper, produce often a very agreeable effect in different monochromes. His photographs are often pictorial, even artistic, and so are pleasing to look upon.

WHAT IS ART?

As the late W. J. Stillman, painter and art critic, clearly expressed it: "There is no possibility of changing a photographic impression by any thought or effort of the photographer. We may cut down a tree that stands in the way of our view, but that is not art; and we may retouch and work on our negatives, but that is not photography; and we may choose our subject well, but that is neither one nor the other, but good taste."

Paintings, on the other hand, may sometimes be poor things, as we know many of them are, and not so attractive as some pictorial photographs; but if they express, even though feebly, the creation of the artist's mind, they are works of art to just that extent.

Now, just what do we mean by art when used in this connection?

As Mr. Kenyon Cox, who is also a distinguished painter as well as an authority on art subjects, wrote many years ago in *The Nation:* "The art of painting has two distinct sides; the purely ideal side, corresponding to music, and a purely realistic side. A work of absolute idealism would have to be confined to the mere musical arrangement of colors and lines without any resemblance to natural objects. Such an arrangement might be very beautiful, as in a Turkish rug, but surely we would not think it painting. On the contrary, a work of pure realism would be the literal imitation, as close as possible to natural objects, without any choice, arrangement or composition. This we should recognize as painting, but could not be called art."

So we see that not even all painters can strictly be called artists.

IMITATING ART.

The pianola, well played, can execute in almost faultless, technical manner, the most difficult compositions of the classic composers, and is capable, too, of more or less expression under control of the performer. The musical artist will play the same composition and make perhaps some slight errors in execution; but these very mistakes prove the superiority of his rendering of the piece over the pianola. One is rendered by a machine; the other by a man. And just here is the difference between that which is art and that which may resemble art.

Some of the leading representatives of what has been called the "New School" of photography are men and women of cultivated taste in matters artistic, who, if they had begun the training of eye and hand at an early enough stage of their artistic development, would undoubtedly have made places for themselves as real artists.

Sometimes by accident, often by design, very pleasing effects are obtained in photographs of this class; but only too frequently the result shows on its face the attempt. Putting a photograph deliberately out of focus and underdeveloping the negative does not often make it look like a "Sunset," a "Sunrise," a "Moonrise" or "a Misty Morning." It usually looks like what it really is—an affectation, a feeble imitation, an imperfect photograph.

FREAK PHOTOGRAPHS.

I am speaking now, of course, of the so-called "freak" or "fuzzy" photographs, which, unfortunately, too many of this school produce, and which especially characterize the work of those beginners who would fain be considered as belonging to the "New School."

Another mistake made by many of the "New School" of photography is to forget that nature is not always having a "Sunrise," a "Sunset," a "Moonrise" or a "Misty Morning." They rarely if ever, give us the brilliant sunlight effects of, let us say, a September day in the country; days when objects in the foreground and distance are sharp and clear cut. They seem to forget that such phrases of nature are as real as the "gray, lowery" days of the senior Inness. They seem to be likewise ignorant of the fact that many artists of renown have painted pictures representing scenes on just such days as these.

Architecture, interiors, all kinds of copying, scientific work in many directions, and certain kinds of portraiture, landscape—so large and varied a field is open to the skillful and intelligent photographer, where he can excel the painter in so many respects, is it not unwise to compete with him where competition is hopeless?

THE WORK OF REAL ARTISTS.

And then it should be remembered, as Mr. Cox has pointed out, that not all art is equally great.

It is the imagination, the striving after the ideal in form and color, the touch which fires the imagination of the beholder with the same enthusiasm for the ideal which inspired the artist which makes a real artist. Such a one may use the pencil, the brush, the etcher's tool or the sculptor's chisel, whichever gives him the freest and fullest expression.

But the photographer who cannot draw, paint or model has a wonderful instrument at his disposal in the camera, which can reproduce many beautiful things beyond the reach of the draftsman, the painter or the sculptor. Let him be content with it in its natural field, and not attempt to do those things for which it is not adapted, and which place him and it at a decided disadvantage when compared with the work of real artists.

AVOID EXTREMES.

I hope I shall not be understood as deprecating making our photographs as artistic as we can make them, for that is farthest from my desire. I think we should always try to make our photographs as attractive, pictorially, as possible, and, at the same time, as near technically perfect as we can make them.

Let us always try to make our photographs as pictorial as possible, adopting the good in the new schools and holding fast to the good in the old, avoid the extremes of all. We shall then make well composed, correctly timed and developed negatives, printed on the paper and toned in the way best adapted to the subject.

Our photographs will vary in style of treatment as our subjects differ from each other; but all will be as good technically as we can make them, as well as artistic.

Let us not be dissatisfied with our photographs because they are not paintings, or do not look like paintings, for, after all, a good photograph is much better than a mediocre painting.

WHERE TI-TREE SHADOWS KISS THE SANDS.

By Fred Radford.

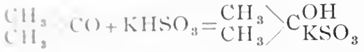
THE MEADOW.

By Ward_Muer.

ACETON SULPHITE-BAYER.

BY DR. N. WEINTRAUB.*

If a concentrated solution of an acid alkali-sulphite, like soda or potassium-metabisulphite, is mixed with aceton, an aceton sulphite alkali will form. For instance, metabisulphite of potassium with aceton gives after the following equation:



$$\begin{matrix}CH_3\\CH_3\end{matrix}\!>CO + KHSO_3 = \begin{matrix}CH_3\\CH_3\end{matrix}\!>C\begin{matrix}OH\\KSO_3\end{matrix}$$

(Aceton + metabisulphite of potassium = aceton sulphite potassium.)

Aceton sulphite potassium, which, when evaporated, crystallizes in white scales of a pearly gloss. These crystals dissolve easily in water, but less in alcohol.

This preparation, on account of its many-sided applications in the photographic laboratory, will soon find extensive use on its merits, namely:

1. In the preparation of all developers and acid fixing baths, as substitute for sulphite and bisulphite of the alkalies.

2. In developers of phenolic character it takes the place of sulphite and aceton.

3. As addition to the water, when diluting the commercial concentrated developers.

To the firm of Fr. Bayer & Co., in Elberfeld, belongs the credit, to have first introduced this preparation into market, in solid form as a white crystal powder, and liquid as a 50 per cent. solution.

APPLICATION IN THE PREPARATION OF ALL AROMATIC DEVELOPERS AND ACID FIXING BATHS.

The reason, why the aceton sulphite-Bayer (aceton sulphite potassium) in the preparation of all aromatic developers is to be preferred to the sulphites is that it possesses, as a condensation product of aceton and bisulphite, all the useful (preserving) properties of the sulphites, without their disadvantages. Aceton sulphite is, practically, absolutely durable in solid as well as in liquid form, which cannot be said for the crystallized sodium sulphite and potassium metabisulphite. The latter chemicals, both in solid and liquid form, will change after a few days to alkali sulphate, a salt entirely useless for development.

One g. aceton sulphite-Bayer will replace 8 g. sulphite of soda in crystals, or 4 to 5 g. of the dry salt.

In the preparation of an acid fixing bath 10 g. of solid or 20 c.cm. of a 50 per cent. aceton sulphite solution to 200 g. hyposulphite are sufficient, to keep the fixing bath clear for a long time. For the same purpose 50 g. sulphite of soda and 6 c.cm. of concentrated sulphuric acid or 100 c.cm. of acid sulphite lye must be used.

APPLICATION WITH DEVELOPERS OF PHENOLIC CHARACTER.

With developers of phenolic character (hydroquinon, pyrocatechin, pyro, amido phenol, edinol, etc.), as first published by Lumière and Seyewetz, aceton may be substituted successfully for alkalies in presence of sulphite of soda. Aceton sulphite is applicable in place of sulphite of soda and aceton in such developers, as it decomposes into aceton and sulphite of potash by the addition of very small quantities of alkalies, according to the following formula:

$$C_3H_7O_4SK + KHO = C_3H_6O \text{ (aceton)} + K_2SO_3 + H_2O.$$

To decompose 1 g. aceton sulphite of potassium in its component parts, there are required:

Soda hydroxide	0.25 g.
Potassium hydroxide	0.35 g.
Carbonate of potash	0.8 g.
Bicarbonate of soda	0.7 g.
Crystallized carbonate of soda	1.8 g.

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* Translated by Henry Dietrich.

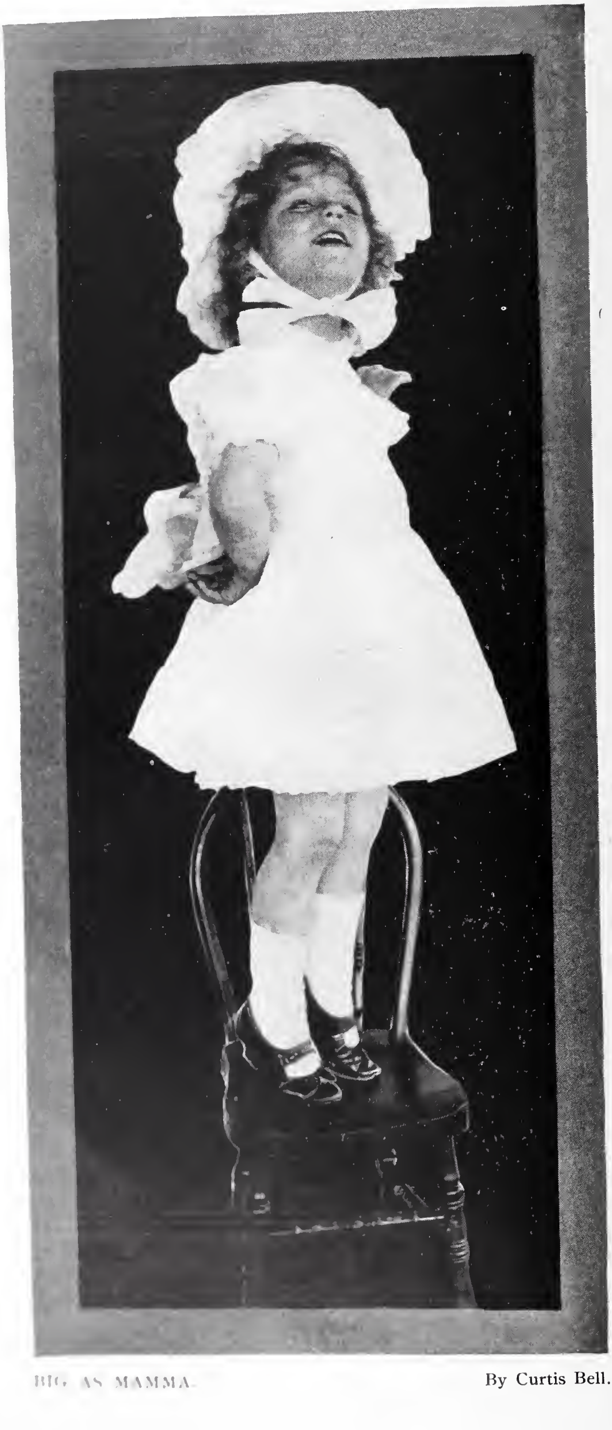
By means of aceton sulphite it is possible to produce strongly concentrated stock solutions from the developer substances in question, such solutions being durable for a very long time.

To prepare a concentrated, durable pyro-aceton developer, dissolve 25 g. aceton sulphite-Bayer and 10 g. pyro in 100 c.cm. of water. For use 5 c.cm. of this solution are diluted with 100 c.cm. of a 2 per cent. carbonate of potassium solution. This formula will work slow and clear without any addition of bromide of potassium. By an addition of a little more concentrated pyro solution it will work quicker and stronger.

APPLICATION IN THE DILUTION OF THE CONCENTRATED DEVELOPER SUBSTANCES.

I would like to call attention to one more useful application of the aceton sulphite, that is, in the dilution of concentrated developers ready for use, like rodinal, crystallon, phebus, 10 per cent. edinol stock solution. All these developers contain caustic alkalies (sodium or potassium hydroxide) as accelerators, on account of their greater solubility and alkalinity. These mixtures are durable for a very long time in concentrated form, but after dilution they darken quickly and become useless very soon by reason of the presence of these alkalies; but if diluted with a 2 per cent. solution of aceton sulphite-Bayer, instead of the required amount of water, the solutions will keep clear for at least three days, and a much larger number of negatives can be developed with the same.

POOR PICKING. By Geo. E. Tingley.



BIG AS MAMMA. By Curtis Bell.

A WONDERFUL PROCESS.

BY THE EDITOR.

DULL, WET DECEMBER.

lock by .W. Ashworth. Photo by E. W. Philpott.

AFTER all, it is only about the half-tone process that I propose to write; and it is perhaps best to state this at the outset, or some of my readers may say that the title is misleading and turn away from my article with somewhat of the disgust which a choleric individual experiences when he has read half through a newspaper column before he discovers it is only one of those ingenious quack medicine puffs with an ad. in the tail of it.

The man who is working the half-tone process every day would probably say there is nothing very wonderful about it, yet I hope to persuade him that the process he is engaged in may fairly claim to be regarded as one of the most wonderful inventions of the latter end of the nineteenth century.

So quietly has the process grown and improved and worked its way into more and more extended use, that its advent has been hardly noticed; and certainly it has scarcely been realized how great a change has been wrought in the character of our books and periodicals by means of this process. Indeed, the great bulk of the reading public have probably not noticed that any change has taken place. They have seen the numbers of illustrated periodicals increased to an almost bewildering extent, far beyond their power to keep pace with them, and that more and more illustrations have been furnished for their money. They may have also noticed that the illustrations have "looked like photographs;" whilst a few of the more curious may have examined the prints more closely and wondered why THE PICTURE WAS SPLIT UP INTO LITTLE DOTS. But what the process was and why it had superseded the old-fashioned woodcut was a thought that never occurred to the majority. A few people, without inquiring into the nature of the process, may have concluded from the general poorness of the illustrations in some publications which laid themselves out to give a "lot for money," that the process was a cheap one. Others would certainly conclude, from the rapidity with which public events were pictorially recorded in the illustrated weekly papers, that the process was a quick one. But the "man in the street," I am sure, has never thought anything about it. He has just skimmed over the illustrations in the papers and magazines with a careless interest, and never given a thought how they were done. Some he admired, some he thought poor, some were interesting, some were instructive, others were amusing—that is all he thought about them. When he found his morning or evening paper devoting space to illustrations for the first time, it may have struck him as curious and as thrusting out interesting news. But, on the whole, the "man in the street" has not been seriously affected by the new kind of illustrations, taking them as a matter of course—just as he now dives down the "twopenny tube" and takes his seat in the electric train with no more thought than he would give had he been doing the same thing for the last twenty years. The public is not altogether ungrateful for the advantages of living in this advanced age, but it is very indifferent in regard to the way the improvement came about.

So it is, then, that the term "half-tone" conveys no meaning to the general public; and even a great many editors, printers, publishers and others who are using the term every day have, I fancy, only a vague idea of the process. If they were asked for an explanation of the term "half-tone" they would probably answer something in this way: "Oh, yes, that's the process where the photograph is split up into little dots by taking it through a screen."

"AND WHY IS IT CALLED HALF-TONE?" an inquisitive person would ask. I have heard the answer given, "Because you don't get the full tones of the photograph; it's all reduced to a half-tone." "And what is a 'screen?'" pursues the inquisitive person. "How can you photograph through a screen unless you use the X rays?" "Oh, the screen is a glass plate with a network of lines on it," replies the catechised man. "Is the screen put over the photograph, then?" "No, they put it in the camera in front of the sensitized plate." "Ah! I see now. The screen divides up the picture into little squares, of course. What an ingenious process!"

Now, this sort of explanation satisfies most people; but it's a very crude exposition of the process. And the assumption as to the screen "chopping up the picture into little dots," as so often expressed, is entirely wrong. It was not until workers in the half-tone process realized the fallacy of such a view that they began to make any real progress, as I shall presently show.

The real explanation of the use of the term "half-tone" is also quite contrary to the accepted one. The expression arose in this way:

IN THE EARLY DAYS OF THE PROCESS

it was usual to advertise the new method as "a process for reproducing all the delicate half-tones of photographs," or some similar phrase embodying the words "half-tone." Naturally, it was soon shortened into "the half-tone process," and this term is now applied almost universally to blocks produced by the ruled screen, although the method of production may vary in detail.

Formerly it was usual for every inventor of a new half-tone method to prefix his name to it; and we had the Meisenbach process and the Ives process; or Swantype, Mosstype, etc. All these designations have practically gone out of usage in favor of the popular term "half-tone.' In Germany the term "Autotypie," originally given to the process by Meisenbach, is very generally used, though "der Halbtonprozess" is well understood. In France, although the most classical title is perhaps "la photo-typogravure à demi-teintes," it is more often called "simili" or "similigravure." Formerly the phrase "nature process" was much used in England and France. It must be confessed that the term "half-tone" is inelegant and inexpressive, but it has passed into currency and must be tolerated. Whether it has yet found its way into the dictionaries I do not know.

Now let me try to make plain what "half-tone" means in relation to this process. The antithesis of half-tone is

THE "LINE" PROCESS,

which will reproduce anything which is in black or in any monochrome on a white or light ground. The only condition is that there must be only one shade or tone in the lines, dots or patches of ink or color which is to be reproduced, so that the negative may be the equivalent of a stencil—either opacity or transparency. If, say, a pen-and-ink drawing was made with some lines sketched in a weak ink, the effect of the process would be either to lose these lines altogether or bring them up to the same level of blackness as the strongest lines. If in combination with the lines of a pen-and-ink drawing a wash of some color lighter than black was put in, the process would bring up this color solid black or leave it out. Should we try to reproduce a photograph by the "line" process, the shadows and high-lights or whites only would be rendered when we came to print the negative on the zinc plate previous to etching. An example of a portrait without half-tones is a silhouette. Thus the point to be remembered in distinguishing between "line" and "half-tone" is that in the former process there can be no half-shades—nothing, in fact, between black and white, nor between high-light and shadow, unless the effect is produced by lines or dots Why this is so will be understood from the fact that a layer of ink spread on a printer's roller must be of uniform thickness and will be also spread uniformly by applying the roller to a printing surface.

TO PRODUCE THE EFFECT OF A PHOTOGRAPH

we should require to lay the ink thickly in the shadows and more or less thinly in the half-shades, whilst no ink at all should be deposited in the whites or high-lights. Naturally we might cut away the portions corresponding to the high-lights, but how could we get the delicate gradation from high-light to shadow? The first idea which would naturally occur to the experimenter would be that such a difference could be obtained by a gradual tapering down from the level of the block to the white or non-printing portions. This actually is the basic feature of the Woodburytype process, in which the relief is proportional to the tones of the photograph, the shadows being sunk the lowest and the high-lights being the highest portions of the printing surface (Fig. 1). The result is that when a thin ink is poured over the printing surface and a sheet of paper with a hard backing is squeezed into contact with it, the surplus ink oozes out at the margins and leaves

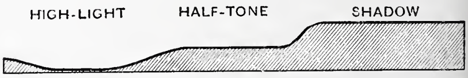


Fig. 1

the proper quantity attached to the paper. The result is a sort of ink relief, the shadows having a thick deposit, the half-tones a semi-transparent deposit and the high-lights the thinnest possible film. This was a most logical solution of the half-tone difficulty, but the process of printing was too slow to meet practical needs. The press was something of the nature of a copying press and the printing almost as slow as the operation of copying a letter. A disadvantage was that the titling could not be printed with the picture, and white margins* could not be obtained, the print having to be trimmed like a photograph close to the picture and mounted. Thus

THE IDEAL WAY OF REPRODUCING THE HALF-TONES

of a photograph proved not to be the most practical.

Since, then, it is not possible to have varying relief in the printing surface nor varying thicknesses of ink, we must make a compromise on the basis of the "line" process, endeavoring to represent our lighter shades by stipple or lines of varying degrees of fineness. W. B. Woodbury, the inventor of the Woodburytype process, sought to do this by interposing a ruled screen, or crape, gauze, etc, when making his relief plate, but this only had the "chopping-up effect" to which I have already referred, the picture losing half its tone and detail. A much more promising attempt to utilize the Woodbury relief was by Charles Petit, in Paris, in 1878. He took a cast from the gelatine relief in a white plaster-like substance, but of such a nature that it could be cut into lines with a V-shaped graver, first in one direction and then across, so that pyramidal-shaped dots would be left. Previous to cutting, the plaster cast was blackened. Naturally when the plaster relief was highest the tool penetrated deepest and therefore left the smallest dot point at the surface. Similarly in the shadows where the dot was highest the tool hardly touched, and therefore left broad-surfaced black dots; or if it did not touch at all—simply skimming the surface—there were continuous black shades. The result was a picture in dots which could be used as an original to photograph from, exactly as any other black and white copy by the "line" process. Petit had hit upon

THE CORRECT PRINCIPLE

which should govern the formation of the dots in half-tone blocks, viz., that the dot should be a more or less truncated pyramid—an inverted V with more or less of the point cut off. Thus (Fig. 2):

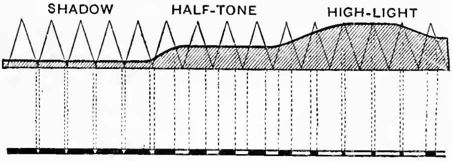


Fig. 2.

Of course it would not do to cut the relief itself into dots and use it as a printing surface, for the simple reason that the dots would be of varying height and only the highest would print. By re-photographing the cast all the dots were brought to a common level.

F. E. Ives, of Philadelphia, who claims to have worked simultaneously on this principle, though he did not patent his method till 1881, proceeded in a different manner, though starting on the same basis—the Woodbury relief—which he covered with an even film of ink and pressed against it a white surface bearing the ʌ-shaped grain. The result was more or less flattening out of the grain; and where flattened out most the greatest amount of ink was taken up. The process was afterward modified by using an elastic sheet with ʌ-shaped points on it. These latter became more or less flattened out and accordingly received a varying amount of ink. The impression received was transferred to a sheet of white cardboard, which was used as the "copy" for the photographing, producing the half-tone effect by the "line" process.

These ideas were ingenious, but they were roundabout, slow and probably uncertain, as all processes depending on gelatine reliefs must necessarily be. I do not think Petit's process ever came into commercial use, and the Ives process was only practised for five years. Ives, no doubt, very early saw the drawbacks of his process, and he set to work to find some more direct method of producing the dot effect, his efforts resulting in the discovery of the principle which he has aptly described as the "optical V," the

DOTS BEING PRODUCED BY MEANS OF A CROSS-LINE SCREEN.

For the benefit of readers who are not familiar with the present-day half-tone process, I may describe this as a glass plate, bearing black lines crossed, so as to leave transparent squares. This is placed in front of the sensitive plate on which the negative is to be made and, so to speak, sifts the light into as many pencils as there are spaces in the screen, each pencil forming a dot (Fig. 3). The simplest way of looking at the matter, perhaps, is to consider that light which is reflected from a white part of the picture forms a pencil of light of the greatest intensity, whilst from a shadow part of the picture the opposite is the case. Now the former will produce the greatest effect on the plate and consequently the largest dot, whilst the latter will be feeble and only produce a small effect, resulting in a small dot. Other intensities will produce various sizes of dots corresponding to half-tones.

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* By a modification of the process it is now possible to obtain prints with white margins, but the printing has not been quickened. A machine very similar to the Johnston Die Press would have saved the process from practical xtinction.

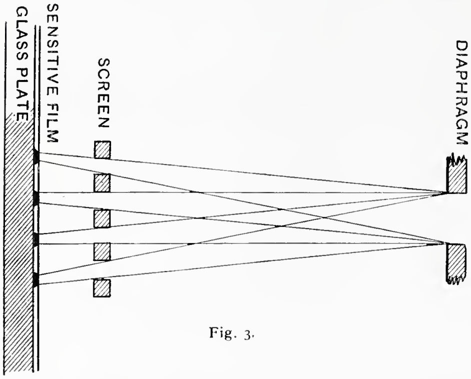

Fig. 3.

Before pursuing the Ives principle further I ought, in justice to other pioneers in the process, to hark back to the beginnings of photo-engraving methods, so that it may be seen how the early experimenters led up to the screen method.

Even so far back as the days of Daguerre and Nièpce attemps were made to etch photographic images in order to form printing surfaces.

NIÈPCE, WITH HIS LIGHT-SENSITIVE BITUMEN

spread on plates of pewter, found it possible to get an image and that the light-hardened bitumen was impermeable to acids, so that he could bite in the plate and make the dark portions stand in relief; but it is not recorded that he attempted to translate tones into relief. His experiments were confined to reproducing the lines of an engraving by exposing the plate through it. Had he been able to impress his plates with a photographic image he would have found, as did several experimenters who tried to etch the Daguerrotype image, that the half-tones were lost, or at any rate they were unprintable.

It was undoubtedly Fox Talbot who had the prescience to see how, by an ingenious compromise, the half-tones could be rendered in engraved plates. Having invented the Calotype process of photography, by which a negative was made on sensitive paper, and from that a print also on sensitized paper, he found that these photographs too frequently faded. It was probably due to this fact that he induced an engraver named Bradley, who was of some eminence in his day, to translate one of his photographs (a view of Melrose Abbey) into an engraving by the usual methods of hand work, The result was very satisfactory, being more faithful than the general run of engravings, and possibly the success of this engraving set Fox Talbot thinking; it may be that the idea of photo-engraving was floating in his mind, leading him to attempt to produce a similar result by photographic means. He no doubt perceived that the way in which the engravers obtained their translation of lighter and darker tones was by thicker or thiner lines, by placing them nearer apart and by cross-hatching and stippling. At any rate, he conceived the idea that if he placed a plate ruled with lines between the sensitive metal plate and a photographic positive transparency, he would bring his photograph into some state analogous to a steel or wood engraving.

Accordingly in his patent of 1852

FOX TALBOT MAKES THE FIRST SUGGESTION,

so far as history records, to break up the tones of a photograph by means of a screen of ruled opaque lines on glass, and he also describes the alternative of muslin, crape, gauze, etc.; also a method of dispensing with the screen by laying a resinous dust ground. In the same patent is described the use of a mixture of gelatine and bicromate of potash as the sensitive film, and the etching of the plate with perchloride of iron. These ideas form the basis of the present-day photogravure process. The idea of applying the screen to the sensitive copper plate has been repatented several times, and even to this day is the "secret" of some jealously guarded photogravure processes.

Although Fox Talbot took out his patent in 1852 he had been working on experiments with a view to engraving plates by photographic means from 1843 onwards, so that he undoubtedly antedated every other experimenter.

It seems remarkable that at such an early date he should have so clearly grasped

THE ESSENTIAL PRINCIPLE OF PHOTO-ENGRAVING,

not only in regard to the use of a screen, but also as to the most suitable sensitive surface, the laying of a grain and the etching of the plate with perchloride of iron—all of which methods are in use to-day, only modified in detail. The fullest justice has not been done to the memory of Fox Talbot, who was undoubtedly an original investigator and in many respects a remarkable man. His results, too, were practical and complete—not crude experiments. Only last year some of his engravings on copper were unearthed by the editors of the *Photogram* and excellent prints obtained from them. The remains of this father of photo engraving, originator of this most "wonderful process," are interred in the cemetery of Lacock in Wiltshire, about a quarter of a mile from Lacock Abbey, where he lived—a place which ought to be the Mecca of every photo-engraver who is a lover of his craft.

Fox Talbot was followed by many other experimenters, first among whom must be mentioned M. Berchtold, a Frenchman, who took out a patent on the 14th December, 1857, in which he distinctly specified the use of a glass plate "coated with a substance impermeable to light and covered with a multitude of very fine parallel lines close together, made by means of a pointed steel tool, which removes the substance without cutting the glass." He also describes the method of

TURNING THE SCREEN AT RIGHT ANGLES OR OTHERWISE,

so as to cross the lines. This anticipates the idea which Swan and Meisenbach patented many years afterwards, though it must be said in justice to the two latter inventors that Berchtold does not mention the use of the screen in the camera, his method being to impress the lines on a bitumenized or bichromated zinc plate after the photographic image is printed. He describes his screen as a "sort of photographic graver" for tinting or shading the photograph in lines, after the style of the steel or copperplate engraver.

C. J. Burnett followed up the ruled screen idea by suggesting in 1858 the use of crossed lines instead of making a double exposure to secure the crossing.

A claim has been put forward in favor of Baron F. W. von Eggloffstein as the inventor of the half-tone process; but though he may be credited with its introduction into the United States he cannot be regarded as an original inventor, for the published description of his method shows that it is identical with that of Berchtold. Moreover, it does not appear that Eggloffstein was pursuing experiments earlier than 1861, and he did not take out a patent and publish his results until November 21st, 1865, whilst Berchtold's patent is dated 1857. Eggloffstein had been an officer in the Prussian army and had only migrated to America shortly before the time of his experiments being made. In 1886, the two sons of Kossuth, the Hungarian patriot, were at work on a similar process and described the use of screens of fine lines ruled upon glass with a diamond point on glass.

In England, E. & J. Bullock, a firm of photographers at Leamington, took out a patent in 1865, which embraced the use of a ruled screen and of muslin, gauze, etc. They also appear to have been the first to announce the idea of

PLACING THE SCREEN IN FRONT OF THE SENSITIVE PLATE

in the camera. This latter fact must be regarded as a most important step in the history of the half-tone process, for undoubtedly this was the foundation of the present-day half-tone process. The method of impressing a ruling separately from the image on the plate to be etched, though adaptable enough for intaglio printing, would never have led to the perfection which has been now attained in relief half-tone blocks.

It was soon seen that the use of the screen in the camera was the right method, and other experimenters were very speedily at work on it, notably J. W. Swan, the veteran chemist and electrician, better known to the world perhaps as the inventor of the carbon filament in the incandescent lamp. He patented in 1879 the method of turning a single-line screen during the exposure so as to obtain the effect of a cross-line screen. Although

MEISENBACH

is generally credited with the process, he did not take out a patent until 1882, embodying a similar idea of turning the screen; but all honor must be given to him as the first to popularize and bring the half-tone process to a practical commercial success. From this time onwards the half-tone process was worked as a business, where before it had never emerged from the stages of laboratory experiments.

A fact which I wish to impress at this point is that up to this time the half-tone process as we now know it had not actually been invented. All these early experimenters seemed to have aimed at simply cutting up the picture into lines or dots—the "chopping-up" method which so many believe even to this day to be the principle of the half-tone process. That is why all the early half-tones were "mincemeat" pictures, which frequently provoked such expressions as "raspy effect," "those irritating dots," "the damned wire screen effect," "those gauzy pictures," "that Berlin woolwork effect," "looking as though they were taken through a veil," and so on. The fact was that in "chopping up" the picture into dots half the picture had been chopped out. It was the same as would be the case if a photograph was cut through vertically and horizontally with a tint of white lines. It was like a picture seen through a veil or screen and a good deal of hand work had to be put on to the block to make the result passable. Indeed, Meisenbach forced his process into popularity by the amount of skilful hand-work with the graver, burnisher and roulette which he applied to the blocks. By studying the needs of printing—and especially the poor printing of that day—Meisenbach overcame the prejudices of printers and made a great commercial success of his process.

We can now revert to

"THE IVES PRINCIPLE"

and turn to America for the further progress of the half-tone idea. This part of its history is, indeed, the most important. Zinc etching in line was practised in America very soon after it had spread into use in Europe. Gillot described his process at the Paris Exhibition of 1867, and from that date onwards the process came rapidly into extensive use. It had reached the highest point of success at the time when Meisenbach blocks became popular, and every step forward which the half-tone process has made seems to have proved one step backward for the "line" process.

It will be seen that Ives must have had plenty of suggestion from the European experimenters on the use of the screen, yet he improved on the idea in a quite original way. It was based on Petit's idea of translating the tones into dots of varying size and on the method which Ives had already been working, as already described; but the necesity of making the relief and replica from it was done away with, the peculiar dot effect required being produced in the negative by means of the ruled cross-line screen. It may be urged that Ives is not entitled to the credit of the earliest use of the cross-line screen, but he claims the use of the sealed cross-line screen, in which a pair of parallel line systems on glass are crossed and sealed between the glasses. Workers of the early methods of half-tone could not conceive how such screens could be used, because they fancied the screen must be closer to the plate than the thickness of the glass would allow for.

The Ives principle permitted an appreciable distance between the screen and the plate, and indeed it was found to be a distinct advantage to have

A SCREEN DISTANCE.

Later investigations elaborated the practice of distancing the screen, and tables of screen distances which were published[*] showed that the screen distance bore a definite relation to the extension of the camera and to the size of the lens aperture, as well as to the size of openings in the screen. Figs. 4 and 5 show in diagrammatic form the effect of screen distance. In the one case it is merely a masking or chopping-up effect, whilst in the other there is a perfect graduation of dot.

I need not go more deeply here into the influence of the diaphragm and screen distance.

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[*] See "The Correct Screen Distance in Half -tone Negative Making," by myself, with calculations by J. A. C-Branfill, in *Process Year Book* for 1896. Afterwards republished in booklet form, "No. 2 Penrose Pocket Book—the Half-tone Process," now out of print and superseded by "No. 5 Penrose Pocket Book—the Half-tone Process, with Penrose Patent Diaphragm System."

Suffice it to say that modern half-tone negative making owes its success to a suitable combination of screen distance and diaphragm (lens aperture). The correctness of the principle of the optically formed ∧ dot was soon demonstrated by experience, and from the time of the introduction of the cross-line screen method, about 1888, the history of the half-tone process is simply a record of the progress towards perfection of this idea. The cross-lined sealed screens used by Ives were introduced commercially by

MAX LEVY,

who brought them to the highest degree of perfection by engraving the lines into the clear glass and filling with a black pigment. M. Wolfe also, by a different method, has for some years past produced excellent screens, and there have been several imitators of these two pioneers in screen manufacture.

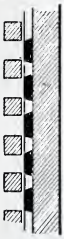

Fig. 4.

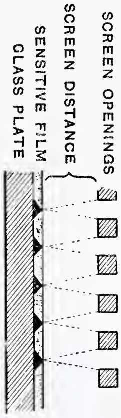

Fig. 5.

The theory enunciated by Ives was followed by many investigators of the highest eminence, amongst whom I may mention Dr. Eder, of the Technical High School in Vienna; E. Deville, the Surveyor-General of Canada; the late Dr. Grebe, of the Zeiss Works, Jena, and previously associated with V. Turati, in Milan; A. A. K. Tallent, of the Polytechnic School of Photography; the late W. B. Bolton, the joint inventor of the Collodion Emulsion Process, and U. Ray, of Calcutta, whose admirable articles in the *Year Book* have shown not only a clear grasp of the subject, but have suggested new methods of work.* It would seem to-day that there is nothing further to be discovered in respect to the half-tone dot and we can only go on gaining skill and improving our apparatus to the utmost limit.

Most helpful to the half-tone method was the discovery of

THE ENAMEL ON FISH-GLUE PROCESS

for making the print. It is attributed to an Englishman named Purton, now dead, who was working at a photo-engraving establishment in Philadelphia. He was experimenting with an old process found in some back number of one of the photographic almanacs, by which a copper-plate was coated with a mixture of gum, bichromate and sugar, which when dry was exposed under a negative, and the resulting print had the property of attracting a powder more or less according to the lights and shades of the picture. The story runs that he overheated one of these plates and, being unable to remove the print from the metal by any solvents, it occurred to him to use it as a resist. The results were so promising that it became a regularly worked process, until someone discovered that fish glue could be used instead of gum, and that the powder need not be used at all. An English photographer named Hyslop, who was working in the States some time about 1892 or 1893, has probably as good a claim as anyone to the origination of the fish-glue idea.

By means of the enamelled gum or fish glue, enabling the direct print from the negative to be used as the resist for etching, the original size and sharpness of the dots was retained instead of being thickened with ink and resin, or partially etched away by the acid.

THE USE OF COPPER

led to perchloride of iron being adopted as the etching mordant, also tending to maintain the sharpness of the dots.

Finally, the improvements in printing the blocks have largely influenced the success of the half-tone process. For several years it had to contend against imperfect machinery, unsuitable rollers, bad ink, poor paper and the deep-rooted prejudices of the printers.

But the process was right; all difficulties have been surmounted and all prejudices lived down, so that the half-tone stands to-day on a footing such as no other method of engraving has ever attained; and not only has the process been improved in itself, but it has had a large influence on the improvement of printing machinery, of paper, ink and printing methods. It has led to greater cleanliness and care of machinery in the printing office and improved the quality of printing all round. Worn out and inartistic type faces could not he tolerated alongside the clean and precise half-tone, and shoddy printing could never have a place where half-tones had to be used.

But, most wonderful of all, the half-tone method has brought

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*See article in present issue on "Automatic Adjustment of the Half-tone Screen."

THE THREE-COLOR PROCESS

out of the stage of laboratory experiment and rendered it capable of practical applications; so that in a few years we may expect to see our books, magazines and newspapers with illustrations printed in colors.

Again, by a modified method the half-tone principle has been applied to steel and copper engravings, revolutionizing—shall I say also ruining—an old and artistic profession, just as the regular half-tone ruined wood engraving by superseding it.

Even the charming process of photogravure has been cheapened, and I hope it will not be said degraded, by the introduction of the half-tone principle into the formation of the grain, thereby enabling the copies to be printed on fast running power presses instead of the slow old hand presses.

Further, who can measure the influence the half-tone process has had upon art? The process has been often declared antagonistic to artistic ideas, yet it has set up a race of artists and draughtsmen who have made it their business to draw for process, and have certainly found it more lucrative than the pursuit of art for art's sake, as in the old days. It is probable, too, that the process has

BROUGHT ARTISTS INTO CLOSER TOUCH WITH THE PEOPLE,

popularizing their works and not improbably tending to widen the circle known as "the art-loving public." The works of great masters in the art galleries of this and other countries have been made familiar to the public, in form at least, if not in all their wealth of color, and this must have created a greater love for pictures and a greater desire to see the originals of these reproductions. The colonial in the far up-country can see in illustrated home journals

LITTLE LADY CHARM. By Dr. F. Detlefsen.

the reproductions of the choicest works in the Academy, and be acquainted, by means of pictures, with the course of current events within the older boundaries of civilization.

The features of celebrated people are familiarized to the whole world, and views of famous places, accessible perhaps to only the few, may be seen by multitudes who may never be able to visit them.

Science has been no doubt advanced by the publication of photographic illustrations of the most unimpeachable fidelity along with the text of scientific works, rendering the latter not only more interesting and instructive, but possibly more easy to comprehend.

Commercial firms have been able to advertise their wares in a way that was never possible in the old days when wood engraving and lithography were the only available processes.

Who can measure, either, the influence which the half-tone process has had upon photography itself? We know that

PHOTOGRAPHY HAS ADVANCED BY LEAPS AND BOUNDS

concurrently with the progress of the half-tone process, and we may fairly assume that the familiarizing of the public with photographic illustrations in the illustrated press has led to the extensive popularity of photography.

There can be no doubt that the half-tone proecss most happily met the needs of the times; it was just the process to suit the bustling life of the latter end of the nineteenth century—a process which kept to the pace of the social life of the people at a time when mechanical, electrical and chemical progress had changed the whole conditions of living, compared with the days when wood, steel and copperplate engraving sufficed for the illustrative needs of mankind.

The world now moves faster and is ever wanting quicker methods. The camera has replaced the artist and draughtsman for purely record work, whilst the acid bath and the routing machine have replaced the graver, just as the linotype machine has replaced the compositor where rapid type-setting is wanted.

Undoubtedly Time will also bring changes in the half-tone process, which will inevitably tend to become more and more mechanical where it is applied to such purposes as newspaper illustration. A self-adjusting process camera will take the negative, which will be mechanically developed, dried and printed. Levy's acid blast machine will automatically perform the etching, and a combination machine operated by one man will do the finishing of the block. The whole process will probably be carried through in half an hour or less.

It is even possible that the screen negative making and

THE ETCHING WILL BE ENTIRELY DONE AWAY WITH.

We do not know how far we must reckon with such a machine as Amstuz's Acrograph, which is slowly progressing towards greater and greater perfection. In that case the newspaper photographic negative would be printed straight away on to carbon tissue by electric light, the carbon relief put into the Acrograph and the machine would do the rest, turning out a relief plate on celluloid which could be stereotyped or electrotyped.

Whatever the future brings forth it surely cannot be gainsaid that the half-tone process, which has already accomplished so much, is a wonderful process. What a pretty idea it was of splitting up and assorting the rays of light, so that on the negative a big dot was made where the light was reflected most strongly from the picture, a medium-size dot for a medium strength of light, and a tiny dot for the feeblest rays—these being reversed in the print, so that white was represented by tiny pin-point like dots, half-tones by well-rounded dots, which gave the modulation, and shadows by big dots closing up into blacks.

Familiarized as I have myself become with the half-tone process by years of reading, study, experiment and practice—and by having thousands of blocks through my hands—I can never lose my admiration for the

MARVELLOUS OPTICAL AND CHEMICAL PHENOMENA

upon which it is based, and which have been evolved by the untiring—and for the most part unrewarded—work of scores of experimental and practical workers, during the fifty years (nearly) which have elapsed since Fox Talbot's first patent was taken out. In 1902 the process will attain its jubilee, and an exhibition which would show the present position of photo-mechanical processes would be a fitting way of celebrating the event and of doing honor to the memory of the father of process engraving—William Henry Fox Talbot.

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WHERE RISING VAPORS DIM THE SETTING SUN. By W. A. J. Hensler.

NEW WAY OF INTENSIFYING LINE-SCREEN NEGATIVES.

BY LUDWIG TSCHÖRNER.*

THE most general way of producing line-screen negatives might be the one, which at present is in operation at the Imperial Graphic Institute. The negative made with the collodion process is bleached with bromo copper, blackened with nitrate of silver solution, iodized by treating with an iodo-iodide of potassium solution and reduced with a weak cyanide of potassium solution (the dots reduced). The blackening takes then place with sulphite of soda. When reducing the dots, it may happen to the most skilled operator, that the reduction went too far, that the dots did not get sufficient covering or disappeared. Such a negative is then generally useless. If the reduction did not proceed too far, covering of the dots may be obtained again by treating the negative with the lead intensifier after it has been blackened, but this brings frequently the lights too close, so that the negative becomes useless.

NANCE O'NEILL. By Bushnell.

This is not the case now in the following described new method; the original soft character of the negative is preserved, and even dots that became lost appear again completely covered.

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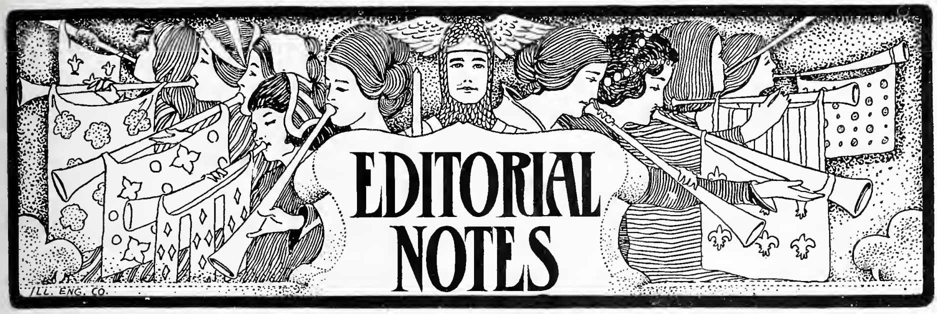
* Translated by Henry Dietrich.

The manner of treatment is the following: The screen negative, made in the ordinary way upon a wet collodion or collodion emulsion plate, is, after developing and fixing, treated with the bromide of copper-silver intensifier, and is thus iodized. After this it is reduced in a weak solution of cyanide of potassium. If the covering of the dots is lost hereby in consequence of the short exposure, short development or too strong a reduction, or if even some dots disappear in the shadow parts, the negative can be restored again by the following treatment: Place the same, without any previous blackening, into a weak about 5 per cent. silver bath (the silver solution to the copper intensifier can be used for this), and develop without rinsing, in daylight, with the iron or copper developer. The silver precipitates hereby upon the exposed iodide of silver, and the negative, according to shorter or longer development, obtains the same density, which it possessed after fixing or intensifying with bromide of copper-silver. If a still stronger covering is desired, intensify after rinsing with hydrochinon silver. If the negative is iodized again, the dots can be reduced without the necessity of fearing a gradual weakening of this covering. Afterwards blacken with sulphite of soda, and you will have obtained by this method from a negative that was almost useless, an excellent result.

TWILIGHT OFF SCARBOROUGH. By Chas. E. Wanless.



EDITORIAL NOTES

It has given us great pleasure from time to time to reproduce the works of Messrs. Theodore and Oskar Hofmeister. Referring to these gentlemen, Mr. Ernst Juhl says:

" The Hofmeister brothers only became aware of their own artistic gifts through the medium of photography. They owe this discovery to the exhibition held at Hamburg in 1895, to which exhibition they sent small and not very prominent subjects, as on this occasion they realized the wide difference between their own exhibits and those of the most notable artistic photographers of that period.

" Their works are for the most part in private hands, as, apart from the Hamburg Art Gallery, the Dresden Royal Cabinet of Copperplates, and the Kaiser-William Museum in Krefeld, the various art institutions have not yet resolved to include the works in the newborn art of our day.

" The advantages of the gum-bichromate process, the only process they make use of, are as follows:

"(1) The possibility of suppressing or toning down parts of the subject.

"(2) The power of producing in the print delicate gradations which are wanting in the negative.

"(3) By multiple printing the subject may be locally intensified, and much plasticity of effect may be realized.

"(4) Multiple printing with various colors allows of effects which, like the above advantages, are only to be realized with gum-bichromate.

" One frequently hears it said—and this in a vein of reproach—that the Hofmeister pictures look as if they had been photographed from paintings. Certainly this resemblance is not due to any intention or aim on the part of our art photographers. Suppression and simplification, with endeavors to realize the inner or secondary effects, merely demonstrate the possession of artistic taste. If as a consequence the work looks like reproductions of paintings, there is surely no ground for complaint. In this we should rather see a proof of skill which the authors possess—skill in artistic expression.

" Many of the pictures might have been reproduced by other printing methods without losing their artistic qualities; but, on the other hand, the reproduction of commonplace subjects in gum-bichromate can never transform them into works of art. Artistic feeling and individual creation are all that we require from the earnest art photographer. Hence, when their works suggest photographs from paintings, we have proof of self-evident art.

" The photographs of the Hofmeisters are mostly produced by the brothers in association. Oskar, the younger brother, usually carries out that which has been decided in conference, while Theodore makes the enlargements and the positive prints. The most recent work, which is mostly done in two colors, is the result of a method originated by the Vienna workers and elaborated by the Hofmeisters. Any person who has seen the original works of the Hofmeister brothers will quite clearly see that the realization of the determinate tones can only be effected by manifold overprintings, and at the outset the technical side of the work was much hampered for want of this. They use a yellow screen for landscape work. The only plates which they employ are orthochromatic, and, as far as we know, they never make chance exposures."

* * *

PHOTOGRAPHERS in general will be pleased to learn that a new rollable film has been placed on the American market. The name of this film is the Ansco, made by the Goodwin Film and Camera Company, to fit all standard makes of film cameras.

The Anthony & Scovill Company, of New York, are the general sales agents.

A personal trial of this film by the Editor, warrants us in saying that the Ansco film is equal, if not superior, to any other rollable film manufactured.

The advent of this film is of special interest to the dealer in photographic supplies, as he can snap his fingers at the Trust, being able now to purchase everything required by all photographers in the open market, and not be subjected to humiliating conditions and restrictions.

* * *

Honors for American Photographers.—The American exhibit of pictorial photographs, at the Turin International Art Exhibition, carried off the major portion of the awards for this section. The exhibitors from the United States were given five grand prizes, two gold medals, four silver medals and eight honorable mentions. The English photographers got three grand prizes and five gold medals, while France got the same number of grand prizes, but no gold medals. The awards to Americans were as follows:

GRAND PRIX—Clarence H. White, of Newark, Ohio; Frank Eugene, of New York; Alfred Stieglitz, of New York; William B. Dyer, of Chicago, and Mrs. Gertrude Kasebier, of New York.

GOLD MEDALS—Edmund Stirling, of Philadelphia, and Miss Rose Clark, of Buffalo.

SILVER MEDALS—Miss Ema Spencer, of Newark, Ohio; Joseph T. Keily, of Brooklyn; Mr. Benjamin and Mrs. Mary R. Stanbury, of Zanesville, Ohio.

HONORABLE MENTION—Miss Alice M. Boughton of Brooklyn; A. H. Stoiber, Lee Ferguson, of New York; L. Cassavant, of New York; Mrs. Eva Watson Schutze, of Chicago; W. W. Renwick, of New York; T. M. Edmiston, of Newark, Ohio, and D. D. Spellman.

The following letter from Mr. Alfred Stieglitz will be of much interest in connection with the foregoing:

CAMERA WORK.
Alfred Stieglitz, Editor and Publisher,
162 Leonard Street, New York,

December 6, 1902.

MY DEAR MR. HORD: The collection of American work I sent to Turin last spring, at the earnest request of General di Cesnola, Director of the Metropolitan Museum of Art, was awarded the costly King's Prize over all comers. This is, indeed, a vindication for the principles of whcih I've stood for these many years against such big odds. Possibly this *tangible* triumph will satisfy the many who have been doubtful about the true standing and value of that photography so earnestly championed and encouraged by me these many years. The collection I sent contained only sixty pictures, representing thirty workers. As it was, the collection was not quite as good as it would have been, had it not been assembled simultaneously with that of the Photo-Secession held at the Arts Club, which I considerd the more important exhibition. But, as you are aware, any collection shown over my seal means an exceedingly high average, and no *bad* work whatever. It is the average which won the day for us; for England and France, so thoroughly represented, swamped its good work by surrounding it with mediocre. From private sources I hear that the American collection was *the* sensation of the whole Exhibition, not only of the photographs. Kindest regards.

Yours, etc.,
ALFRED STIEGLITZ.

J. Jex Bardwell died in Detroit, Mich., December 13, 1902, at the age of seventy-nine years. In the early days of photography Mr. Bardwell was among the most prominent men in the National Photographers' Association, and did much toward the advancement of the art. Some years ago it was proposed by the prominent photographers to present Mr. Bardwell with a home in recognition of his services, but he declined.

The fraternity in general will learn with regret of the death of **George Burnham** at Pittsburg, Pa., December 1st. Mr. Burnham was for many years connected with the Hammer Dry Plate Company, and later with the Morrison Photographic Supply and Manufacturing Company, at Pittsburg.

George S. Cook.—For over fifty years George S. Cook was identified with the fraternity, and from his store of knowledge many of the photographers of to-day have been benefited. At the ripe age of eighty-three Mr. Cook has passed to the silent majority ; and, while we regret to chronicle his demise, our sorrow is tempered by the knowledge that he was both ready and willing to enter the Great Beyond.

A PECULIAR DEVELOPING APPEARANCE.

BY HANS SCHMIDT.[*]

DEVELOPING recently quite a number of negatives, I observed a peculiar appearance, and found that with ordinary development in red light, without any intermediate exposures, under certain circumstances a positive can be obtained instead of a negative. The reply will be, that this is nothing extraordinary, as by over-exposure to solarization the effect can be obtained. But in this case there was a regular exposure, and the negatively developing plates gave a normal image, while others of absolutely equal exposure furnished direct positives. As the views in question showed high lights as well as shadows quite distinctly in the negative as well as in the positive, the origin of the appearances is not in the exposure, but must be looked for in the development, and, in fact, was found by me therein. The way I came to the result is the following:

In the developer, consisting of

A	
Hydrochinone	15 g.
Sulphite of soda	100 g.
Citric acid	5 g.
Bromide of potassium	4 g.
Water	900 c.cm.
B	
Caustic soda	15 g.
Water	900 c.cm.

of which 40 c.cm. solution A, 40 cc.m. solution B and 40 c.cm. of water were taken, six 13 x 18 negatives were developed, where by the developer obtained a dark, muddy coloration. It remained over night in the open tray, and was filtered three times, until clear, through carbon powder. This solution was used for the development of the plates, and, put into this bath, the film showed the first picture traces after about 4 minutes; after 6½ minutes details could be observed, and after a quarter of an hour I had a richly covered negative before of me. I left this negative now for 3 hours in the same developer. After that time I examined my negative again, and found the peculiar appearance which, when looked at from the film side, a faint negative was visible, but in the transparency a complete positive, with all its details, was to be seen. After five minutes' washing in red light I exposed the plate to daylight, without previous fixing, and a faint negative, formed from a fine silver precipitate, was observed, but in the transparency a positive of bluishgray color, with all its details was seen, which increased still in depth of coloration during inspection, and showed a good character after drying. The negatively appearing parts showed in the transparency a clear, glassy character, so that the plate could be used for printing. If we consider the process now so far, we come to the following explanation of this appearance: By the exposure the bromide of silver film was divided into two parts, whose upper one consists of negatively developing—and the lower one of bromides of silver of a neutral behavior towards the developer. In the first quarter of an hour of the development the expected negatives form therefore. While the plate continues now to remain in the developer, the negative, which had formed in the beginning, appears to dissolve again within the next 2 to 3 hours, and that, so to say, as counter image deposited, unexposed bromide of silver is gradually blackened. The process as such appears, therefore, quite plausible. Unintelligible, however, is, what chemical agencies could cause the dissolution of the negative, which formed in the beginning, as no other ingredients were used during the whole process than those contained in the developer. But at all events this appearance shows, that perhaps it may be possible to build up a positive working developer by the composition of one which develops and reduces simultaneously, analogous to Hanneke's well-known fixing developer, which possesses the astonishing property to develop and to fix

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[*] Translated by Henry Dietrich.

By Mathilde Weil.

THE USE OF THE WYNNE METER.

HENRY WENZEL, JR.

ALTHOUGH full instructions for the use of the above exposure meter have always accompanied each meter sent out by the manufacturers, the simplicity of the meter is such that very often, after merely a casual reading, the directions are laid aside—and forgotten. To remedy this as much as possible, the writer has caused to be printed on the back of each of the newer speed cards concise instructions for the use of the meter, and on the next lot printed will appear a short note with reference to the method of using the meter when one wishes to conform to the time-worn, but the still golden rule of photography, to "expose for the shadows." . . . This information will be a condensation of page 5 in the book of instructions, and is in effect that holding the meter in the shadow of one's body, when allowing the sensitive paper to color to the standard tint, is generally equivalent to holding it in the shadow part of the subject itself.

That plate speeds vary, and that, therefore, the speed numbers found upon the Wynne speed card may occasionally give way to a higher or lower number, is distinctly stated in the instruction book at page 19, as follows: "The list of plate speed numbers is the results of actual camera tests, *but as the speeds of different batches of plates by the same makers vary considerably*, they must only be taken as a guide. A good plan for a first trial is to make two exposures of the same subject, setting the actinometer time for one at the number next above the plate speed given, and for the other at the number next below that speed. A comparison of the resulting negatives will then show which is the nearest to the correct exposure, and when once the actual speed which gives the best results is ascertained, a note should be made of it for future use." This also, being often forgotten, the writer has thought best to add a note to the effect that plate speeds *do* often vary to the next lot of cards printed. It would be time well spent if those who have speed cards not bearing the above information were to make brief notes embodying the same on the cards they now have.

The standard tint is the one used for outdoor exposures, and on page 4 of the instruction book this tint is said to be "the darker one"—and yet some have used the lighter tint as the standard. The standard tint will be noted as the darker one on the new speed cards.

Although it would seem to be self-evident that if the sensitive paper be placed in a pile, under the dial, and on top of the felt pad, the light will penetrate through the paper in use to that lying immediately below at every exposure of the sensitive paper to light, still I have found many who have placed the paper in the meter that way instead of placing it under the upper coil of the spring as suggested in the directions on the outside of each packet of paper.

The exposure for a standard subject (average landscape work) must be varied to suit other subjects, as per full instructions given on page 16 of the instruction book or the brief directions on the back of each meter case. Pages 16 to 19 of the instruction book on "photographing exceptional subjects" should be memorized, or at least carefully read by every user of the Wynne meter—and by those who use it not, as well.

Non-halation plates are listed at their utmost speed, which is that of the upper and faster of the two emulsions with which they are coated. To expose for the lower emulsion, which is generally one-fourth the speed of the upper, the speed numbers should be lowered two numbers, *i.e.*, from F 90 to F 64, etc. The writer has secured excellent results by exposing for the upper emulsion, and does not hesitate to recommend the use of non-halation plates at either the speed of the upper or lower emulsions. They proved a slow plate for general use, a fast one when needed.

As a deduction from the foregoing, I would state that he would best use his meter and find it the greater help who most carefully reads the book of instructions accompanying the same.

Note.—Mr. Wenzel reports that he has tested the new Hammer Ortho plates, and has found both the Extra Fast and the Non-Halation brand to be F 64 of the Wynne speed numbers. The probability that these plates will show an increase of speed in the near future accounts for their not being listed at their present speed at this time.—Editor.

THE REAL ORIGIN OF MOVING PICTURES.

BY LOUIS DUCOS DU HAURON.

ON the 1st of March, 1864, I took out a French patent for an *apparatus intended for reproducing photographically any scene whatsoever with all the transformations which it underwent during a certain time.*

On December 3, 1864, I took out a certificate of addition to the above patent, which opened thereupon the innumerable series of experiments, of descriptive publications and lastly of patents on chronophotography.

My process consisted in obtaining successively, and at very short intervals, a large number of instantaneous proofs, and to substitute them rapidly and without confusion before the eyes of one or of numerous spectators. (It dealt quite simply with the animated projections which are produced to-day.)

Unfortunately for me I had invented too early; at that time the instantaneousness of the photographic preparations had not yet been conquered. The divers arrangements embraced in my patent were reversible. I mean to say they were fit at the same time; for obtaining analytical proofs of motion, for their synthetical exhibition, and even for their projection.

One of these arrangements was based on the use of two batteries of objectives operating alternately.

But the most remarkable one was an apparatus with *continued movement*, which consisted in a group of convergent lenses or objectives passing successively and returning without break by the turn of a roller before an opening, and projecting alternately their image upon a sensitive ribbon of *indefinite length*, which was placed in their focus and was moving in a line parallel to them and in the same way. Since the lenses touched one another no interruption could be produced in the view, either the direct one, or that depending on projection, of the images on the positive ribbon placed into the same apparatus. There were, therefore, no eclipses, nor any vacillation of light.

The apparatus was built and the kinematographic effect was verified on images made by hand, in the absence of instantaneous pellicular ribbons, which did not exist at that time.

Of late, kinematographs based on this same principle, which is so advantageous (continued motion of the ribbon and of a group of objectives), have again been proposed and even executed, but too late now, for the promoters who have let themselves be overruled in the short period of industrial production by the less scientific kinematographs, with one single objective, it is true, but with intermittent motion of the ribbon, and therefore with more or less intermittent lighting.

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A FERRY ON THE DART.

By Chas. Beadle

PHOTOGRAPHY AND LITERATURE.

BY GEO. KENNEDY.

THE FARMER. By F. C. Baker.

SOME years ago I had the honor of contributing a brief article to the Annual on "Photography and Literature." Time has commended an opinion then expressed, that one who follows up amateur photography intelligently will find himself with a recreation that is at the same time an eye-opener in other directions. Art is art whether the result be expressed in literary forms or in a graphic way. The great fundamentals of unity, balance, harmony, and even all the potencies of *chiaroscuro* have their equivalents in the construction of poem or drama. Professor Wendell of Harvard, in one of his best known books, finds that the secret of good literary composition lies in the proper observance of unity, mass, coherence—the very principles which we are told we must observe if we would make real pictures. It is interesting, too, to find that John Burnet in his essay on "Practical Hints on Composition in Painting" quotes as his authority for unity in a picture one of the most literary of the ancient poets. "Horace," he says, "in his Art of Poetry inculcates the same doctrine, *Denique sit quod vis, simplex duntaxat et unum.*" We read that a painter advises beginners to confine themselves to "bits," and it has often been said that photographic tools are at their best when they deal with limited spaces and subjects and do not try to imitate works of the grand order. All this recalls the remark once made about the versatile Dean Swift, that he could write elegantly about a broomstick. Similar principles apply to the treatment of "bits" and of broomsticks. One who knows how to manage little things of one kind is akin to the worker in common things of another kind.

In addition to the education that comes from detecting the wide prevalence of the laws of expression, one who can copy with the camera may have still more tangible proofs of the services of the sister arts to each other. By combining pictures of great authors and other illustrative matter obtained in this way with select passages from their writings one is on the way to a collection of permanent value. The young amateur may work for the accomplishment of Leigh Hunt's ambition in the case of his admired Coleridge. He would make a "precious volume," consisting of his best compositions, a short life, a portrait and some other engravings, perhaps—and then, like the contents of the Jew of Malta's casket, there will be "infinite riches in a little room."

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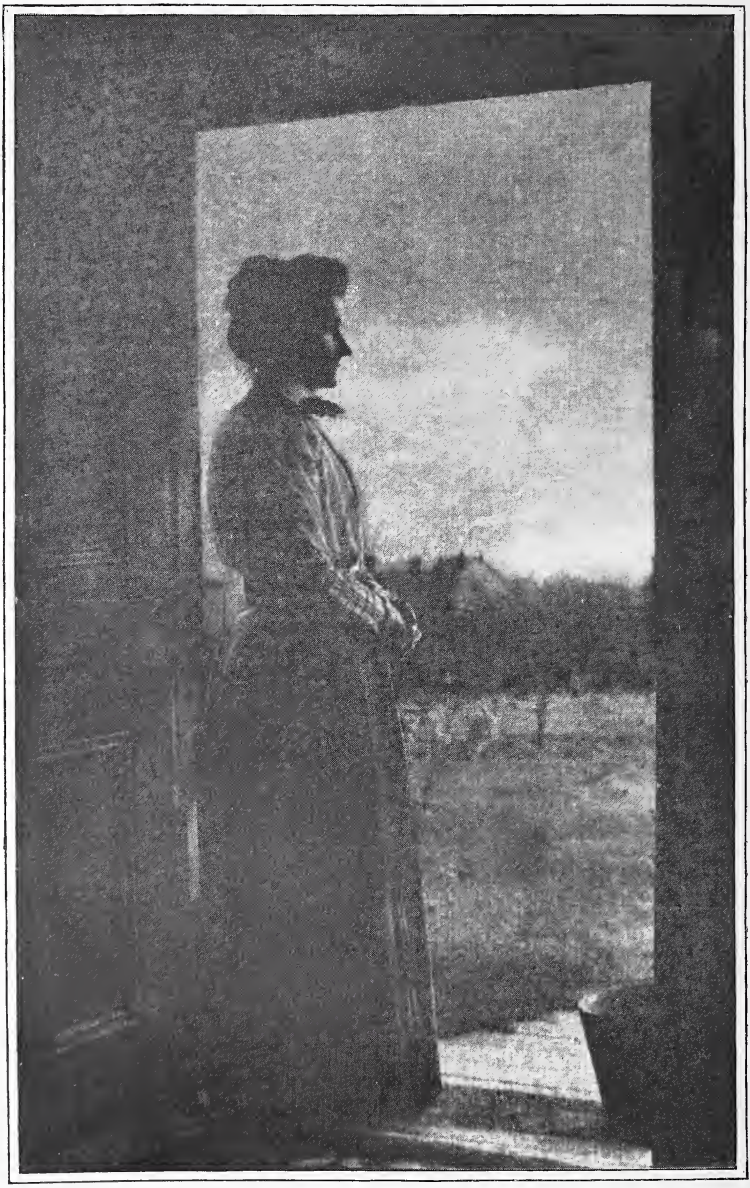


"EVENTIDE." From a Gum Print. By Adolph Petzold.

"DETAIL DEVELOPMENT."

BY W. S. WHITCOMB.

ALTHOUGH much has been written, from time to time, on the subject of development, there is perhaps no subject in all the photographic art that has been treated so badly, writer after writer having at some time or other in their works contributed their share to this most important branch, and during my experience as a photographer, covering a period of something over fourteen years, it has never been my pleasure to read one single article that shed one more ray of light on the subject than another. Whether this is because those who are given to writing on this subject are not practical, I do not know; but I am led to believe that such is not the case, as they are not the only ones who (for lack of a more fitting word), I will say, mislead the novice. Even the manufacturers, who, from their knowledge of chemistry, one would be led to believe, would understand how best to do this work, fail in their instructions to give a clear and concise rule for developing a plate. In looking over the directions furnished by these platemakers, numbering over sixteen, both in this country and abroad, not one of them hit the nail on the head. One would tell you to carry the development on until you saw the image break through on the back, and then to stop; another would say, use factors, or, in other words, place your plate in the developer, and, immediately upon doing so begin to count, and when the image had appeared to double, triple, etc., the number of counts you had made up to the time the image was first seen, according to the kind of developer you had used, and your plate would be developed.

Now anyone with a grain of knowledge on this line knows that if he were to carry out the first of these rules, in regard to an overexposed plate, our plate would be so badly overdeveloped, notwithstanding the fact that we had perhaps known enough about the subject to dose our developer with bromide of potassium to retard development, that the only practical thing to do with it would be to consign it to the waste-box. On the other hand, were our plate underexposed, and we follow out the aforesaid first rule, we would only get for our pains a plate fogged by chemical action to such an extent that it would be unsuitable for any use whatsoever, no matter whether we had used a highly diluted developer or not, and, as for the second rule, factor development, it is even worse than the first, as every experienced worker knows that were we to use but one make of chemicals for all our work no two lots would be of precisely the same strength, which, in consequence, might raise or lower the factor.

Of course, some of my worthy contemporaries will say here that if the hydrometer be used all would be well; but, granting this to be true, how shall we determine how long to develop an *overexposed* or an *underexposed* plate with this method, when both of these conditions necessitate our changing the chemical action of our developer in order to produce perfect plates, and which same chemical changes also change the factor number of the developer used.

Now, while I have shown that both of these rules are at fault, inasmuch as they are not practical, where one encounters either an under or overexposed plate, I do not contend that they are absolutely infallible where correct exposure has been given, but none can gainsay me when I make so bold as to state that there is not more than one in a hundred who is capable of making absolutely correct exposures, and that one is liable to make mistakes, which, under the above methods of developing, means failures.

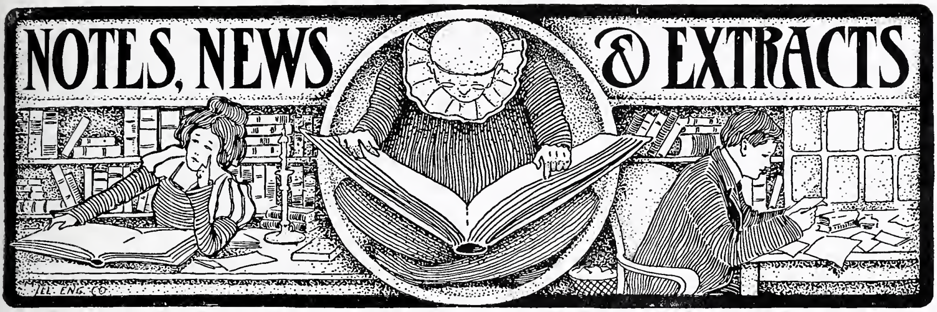
Now, knowing all this, you will say, if all these things be true (and they are you will find, if you go into the matter deeply), if the manufacturer is wrong, the writer and the photographer misguided, how are we going to ascertain just how to develop, or, rather, how *far* to develop. Easy enough, if you will but follow out the following method, which I am pleased to call "detail development."

Knowing that an exposed plate (in other words a negative) is composed of light and shadow, and that the shadow parts, which are called detail, are white on the plate, and also that prolonged development makes these details turn black, all one has to do, after having placed his plate in the developer, is to take it out once in awhile, and examine it by looking *through* it by means of the red light in the dark-room lantern. When you see the details of the picture (or, the little white lines, in other words) begin to disappear or darken over, you will know you have carried your development as far as it will go, and you may safely take it out of the developer, and, after a few minutes rinsing in clear water, place same in your hypo-bath for fixing. If your plate has been overexposed, simply add a few drops of a ten per cent. solution of bromide of ammonium, and this will keep your developer from working too fast and allow you a chance to watch the details. A little old developer will take the place of the bromide if bromide is not at hand, although this is to be preferred.

For an underexposed plate there is not much hope under any method, although I have often been able to produce good plates from an underexposure, by either first soaking the plate in a weak solution of ammonia or carbonate of soda for a few minutes, and then transferring to the developer and proceeding as above, or by first placing the plate in a fresh strong developer, and then placing it in a pan of fresh, clear water after the image had appeared, where I left it from one-half to three-quarters of an hour, and sometimes longer, returning it to the developer, and again to the water if necessary. This latter method is much to be preferred, and it has a tendency to keep the fine details clear and bright, which, with the ammonia or carbonate of soda method, sometimes cause fog, even in the most skillful hands.

In closing would say, if you are having trouble, try the detail plan, and I am positive you will agree with me in saying that "detail development" is the only safe and correct method of developing a plate.

THE VILLAGE. By W. F. James.



NOTES, NEWS & EXTRACTS

First Minneapolis Photographic Salon.—The Minneapolis Society of Fine Arts, in co-operation with the Minneapolis Camera Club, announce that the first Minneapolis Photographic Salon will be held in the Art Gallery of the Public Library building, in the city of Minneapolis, Minn., from January 17th to January 28th, 1903. Exhibitors at the Chicago Salon, closing about January 4th, will be invited to send their work. The Jury of Selection will consist of Mr. Robert Koehler and Mr. Alexis J. Fournier, of the Society of Fine Arts, and Mr. H. E. Murdock, President of the Camera Club. No charge will be made to exhibitors, and no awards are offered. Entry blanks may be had by addressing Mr. C. F. Potter, Jr., 13 South Seventh Street, Minneapolis, Minn.

True to the Life.—One morning a banker stepped into his office and most effusively greeted his book-keeper, who had entered his service just twenty-five years before, at the same time handing him a closed envelope, with the remark:

"This is to serve you as a memento of the present occasion."

The grateful recipient did not venture at first to open the envelope, until encouraged to do so by a nod and a smile from his employer. And what do you think it contained? The banker's photograph—that, and nothing more. The book-keeper was dumb for the moment.

"Well, what do you think of it?" his principal inquired.

"It's just like you," was the reply.

M. A. P. gives an account of the reminiscences of M. Nadar, the Parisian photographer, whose specialty was pictures of royalty. The first monarch who posed for him was Napoleon, in 1850, before the *coup d'etat*, when he had just been elected President of the republic he was so soon to throttle. Nadar was soon afterwards captured fighting at the barricades of the Faubourg St. Antoine, and received his freedom after again photographing the Emperor. Among others whom he has photographed are the King (then Prince of Wales), the King of the Belgians, and the present Kaiser of Germany. Among his intimate friends were Victor Hugo, Lamartine, and Georges Sand. He was a physician by education, but a journalist, cartoonist, duellist, aeronaut, photographer, society lion, and inventor in turn, as the spirit moved him.—*Photography.*

Toning with Sulphocarbamide.—The yellow product obtained by mixing two solutions—of gold chloride and sulphocarbamide—furnishes an excellent toning bath, if a small quantity of tartaric acid and an alkaline chloride be added. Helain suggests the following formula:

Two per cent. solution of sulphocarbamide.....	2 ounces
Tartaric acid	24 grains
(Brown) gold chloride solution, one per cent.....	2½ ounces
Sea salt..................	1 ounce
Water up to........	50 or 100 ounces

The acid is first dissolved in the sulphocarbamide solution, the gold is then added with stirring, and then the salt.—*La Phot. Franc.*

The Old Made Young.—The professional photographer has frequently to lift the weight of years from a client's shoulders by careful retouching of his or her face, but Herr Kunwald, in an able article on "Artistic Portrait Photography" (*Phot. Corr.*), gives us a tip which he says answered very well in his own hands when taking a lady of doubtful age. He places sheets of celluloid between the negative and the printing paper, thus producing a very softening effect, which hides the discrepancies of age. Does Herr Kunwald interpose a certain number of celluloid sheets according to age? If such methods become popular, we may perhaps see the Royal Photographic Society's pushing new council recommending standards of this kind :

Lady's age,	60	Sheets interposed,	20
" "	70	" "	300

and so on.—*Photography.*

Black Ink for Photographic Purposes.—A good black ink which cannot be readily removed, and which is not soluble in water, is useful for writing the names of solutions on bottles, and for blackening the interior of cameras. This may be made by dissolving 60 parts of shellac in a solution of 30 parts of borax in 360 parts of water. Filter the solution and add enough gas-black to make an opaque ink. The best way is to pour a little of the solution into the black, making it first into a paste and afterwards thinning it out gradually with the remainder of the liquid. Once the ink has dried it is practically insoluble. If enough lamp black is added the ink will dry with a dull surface, and in that state is suitable for painting the insides of cameras and other photographic apparatus. If, in addition, a small quantity of fine emery is added, the ink may be used to repaint blackboards with. In a more dilute form the ink is excellent for making line-drawings.—*Bazaar.*

At the rooms of the Brooklyn Camera Club, 776 Manhattan Avenue, Brooklyn, delegates from the more prominent of local associations met in convention and formed a League of Long Island Photographic Clubs. The delegates present represented, besides the Brooklyn Camera Club, the Queens Co. Camera Club, the Brooklyn Academy of Photography, the Brooklyn Institute and Realistic Camera Club. Letters signifying their intention to send delegates were received from the Bushwick Camera Club, Union Camera Club, Y. M. C. A, Central Camera Club. The principal objects of the league are a federation for mutual intercourse and comparison of work, exchange of lantern slides and photographic prints for exhibition purpose and the holding of an annual photographic salon. A permanent organization was effected by the election of Mr. Edwin O. Terbohm as president and Mr. Jno. J. Tresidder as secretary, both of the Brooklyn Camera Club. A committee on plan and scope and a committee on lantern slide exchanges were appointed, the convention finally adjourning to meet later in the rooms of the Brooklyn Academy of Photography, 77 Montague Street

To Loosen Stoppers that Are Stuck.—(1) Hold the bottle firmly in the hand or between the knees, and gently tap the stopper on alternate sides, using for the purpose a small piece of wood, and directing the strokes upwards. (2) Plunge the neck of the bottle in hot water, taking care that the water is not hot enough to split the glass. If the stopper is still fixed, use the first method. (3) Pass a piece of lint round the neck of the bottle, which must be held fast while two persons draw the lint backward and and forward. (4) Warm the neck of the bottle before the fire, and when it is nearly hot, the stopper can be removed. (5) Put a few drops of oil round the stopper where it enters the neck. Next warm the bottle before the fire, and then apply process No. 1. If the stopper still continues immovable, repeat the above process until it gives way, which it is almost sure to do in the end. (6) Take a steel pin or needle and run it round the top of the stopper in the angle formed by it and the bottle. Then hold the vessel in the left hand, and give it a steady twist towards one with the right. If this does not succeed, try process No 5, which will be facilitated by it.—*National Druggist.*

Editor PHOTOGRAPHIC TIMES-BULLETIN :

Dear Sir—After reading the article on "Pinhole Photography" in the July number of the TIMES-BULLETIN, I concluded to see what I could do along that line. Now I am one of those people who would like to try all the experiments they read about but who have the time to do but very little with any hobby. So instead of trying to get a brass plate, etc., as directed in the article refered to, I unscrewed the lense from the front board of my camera and taking a piece of the black paper that comes around plates, I cut a square just the size of the front board and found the center by drawing diagonal lines, then dampened the paper and pasted it on the inside of the front board. By the time I got it pasted on, it was practically dry. Then I found a No. 10 needle in my little girl's work basket, and made a hole in the center of the paper diaphragm. Time taken to do all, *fifteen minutes*. Then just before supper I strolled down to the creek and exposed a plate for an experiment. Time of exposure three minutes. Bright sunshine. Distance from diaphram to plate 6 inches. I enclose a print from this plate. What do you think of it? For my part I am unable to see why we should buy high priced lenses for landscape work, when results as good as this can be obtained without any lens at all.

Yours truly,

York, Nebraska. W. W. WYCKOFF.

Editor of THE PHOTOGRAPHIC TIMES-BULLETIN.

DEAR SIR: As combinations of labor on one side and capital on the other are so popular at the present time, we believe that combinations in the arts, notably in photography, may also be made which will be mutually helpful to those interested. As a rule the ambitious amateur, if he is not identified with a Photographic Society, or has no friend whose long experience will help him to learn the frequent causes of his non-successes, will flounder around in deep water until he becomes discouraged and gives up that most enjoyable of all amusements "Amateur Photography."

We have numerous examples in our own Society, or people, who, until they become identified with us, were obliged to go to the Stock Houses, and hang around until the clerk was able to examine their negative or print and pass judgment upon it, and that decision generally ran in one or two channels. It was either "over-done" or "under-done," and beyond that the amateur could get no help. In a Photographic Society, where all are working for the common good, namely the success of the Society, each is more willing to help the other with pointers gathered from his long experience and the result is that much more satisfactory work can be done and far more pleasure derived from the use of a camera.

The Brooklyn Academy of Photography, at 177 Montague Street, Brooklyn, supplies the requirements above stated most fully. Every month they have a print show. One month it is composed of developing papers, another month of blue prints, and then follow in succession carbons, platinotypes, gum bicromates, etc. Members have the opportunity of seeing what the others are doing, and making comparisons with their own work. On the third Monday of every month there is a Lantern Show, at which lantern slides made by the members are tested and criticised if they so desire. At frequent intervals a demonstration is given by a professional or an experienced amateur, of some paper, chemical or apparatus, which is of interest to all, and at the end of the season medals are awarded for superior work in lantern slides and prints.

Should the ambitious amateur at any time have knotty questions which he cannot solve, he will always find the "latch string" hanging out on Monday night, and if he will make his troubles known to any of the members in attendance, they will be glad to give him the benefit of their experience.

The officers of the Society are:

S. B. Price, M.D., President; Alex. M. Cook, First Vice-President; Wm. Bogart Walker, Second Vice-President; H. M. Valentine, Recording Secretary; J. M. Tallman, Corresponding Secretary; 167 McDonough Street, Brooklyn; A. S. Ingram, Treasurer; Russell E. Prentiss, Curator and Librarian; John Merritt, M.D., Sherman Esselstyn, C. G. Balmano, Edward Esmonde, H. W. Hodges, Trustees.

Yours truly,
J. M. TALLMAN,
Corresponding Secretary.

Brooklyn, N. Y.

PATENTS.

Film Holder.—William H. Hamersly, Harrisburg, Pa.

Photograph Holder. — Nelson E. Harper, Paulding, Ohio.

Plate-Hoider Attachment.—Jay A. Smith, Huntington, N. Y.

Magazine Plate Holder. — Ira L. Green, Watertown, N. Y.

Plate-Developing Apparatus. — John G. Schodron, Milwaukee, Wis.

Copyholder for Photographic Purposes. Harrison R. Schoonover, Eaglegrove, Iowa.

Photographic Printing Frame.—Charles A. Stevens, Chicago, Ill. For panoramic or sectional printing.

Camera.—Christian F. J. Niss, Hinckley, Ill. Embodying device controlling bellow's extention and front swing.

Projecting Kinetoscope.—James H. White. Orange, N. J., assignor to Thomas J. Edison, Llewellyn Park, N. J.

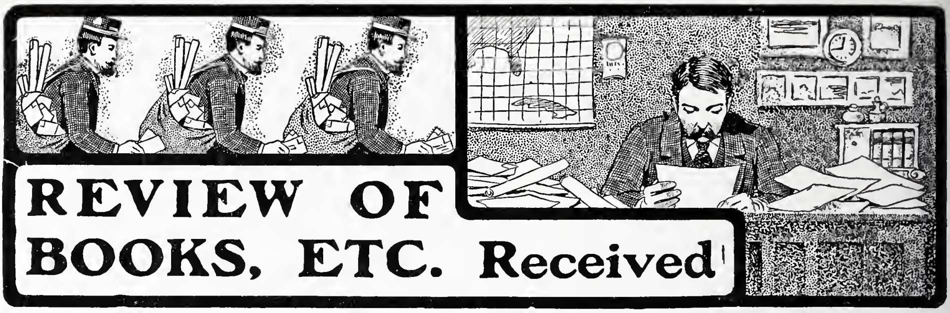
Light Proof Case for Sensitized Plates. —Arthur A. Brooks and George A. Watson, Liverpool, England.

Photogtaphic Timer.—Elmer Harrold, Leetonia, Ohio, assignor of one quarter to Clinton G. Wilderson, Leetonia. Ohio.

Photographic Light Screen. — Edwin F. Beckwith, Ionia, Michigan.

A combination with a photographic camera of a graded light screen or filter arranged to differentially qualify the rays falling upon different portions of the sensitive plate.

* * *



REVIEW OF BOOKS, ETC. Received

The Bausch and Lomb Optical Co., of Rochester, N. Y., have issued much that is unique in the way of advertising literature.

"Mahomet and the Mountain," written by Wm. P. Hopkins, is their latest, and is certainly a most entertaining way of bringing before the public the advantages of their telephoto lens.

Increase in Tuition Fee.—On *March 1, 1903*, the tuition fees of the Illinois College of Photography, for the two and three years' courses of life scholarship, will be advanced to two hundred and fifty dollars. They will also be increased every few months thereafter until they reach four hundred dollars, at which price they will be kept permanently.

Voigtländer and I. By James F. Ryder. Cleveland, Ohio.

James F. Ryder is so well known to the fraternity that an introduction is superfluous. "Voigtländer and I" is just the sort of a book one would expect from Mr. Ryder. Just enough photography in it to add a spice, the remainder little stories and incidents in the long and happy life of the author, finely illustrated with well-selected half-tones.

How to Buy a Camera. By H. C. Shelby. Published by George Newnes, Ltd., London.

While most of the apparatus described in this little volume is of British manufacture, there are many chapters replete with valuable information, not only to the prospective camera purchaser, but to the owner of many cameras. The chapter treating of lenses and shutters is particularly instructive, the writer having carefully avoided technical terms, and at the same time going deep into the subject. The dark room and its fittings form a separate chapter, and is replete with suggestions of value.

The Annual Exhibition of the Brooklyn Camera Club has been set for the 5th, 6th and 7th of February, 1903, and will be open to all amateur photographers.

There will be nine classes, as follows:

A—Landscape; B—Marine; C—Portrait; D—Genre; E—Life Studies; F—Animal Studies; G—Still Life; H—Architectural; I—Miscellaneous.

Any further information regarding the Exhibition will be cheerfully furnished by the Committee on application.

J. S. Stetson,
Chairman.

A Manual of Photo Engraving.—By H. Jenkins. Published by the Inland Printer Co., Chicago.

This work is a revision of the manual issued several years ago. Two exceedingly valuable and interesting chapters have been added, namely: The Half Tone and Trichromatic Process Theories, by Frederic E. Ives; Three Color Process Work, by S. H. Horgan. The chapters added by Messrs. Ives and Horgan will be read with great interest by all process workers wishing to investigate this interesting field. The entire work is replete with valuable information and can be read with interest by both layman and professional.

Die Praxis der Photographic mit Gelatine Emulsionen. Fifth Edition. By Dr. J. Medor, and published by Wilhelm Knapp, Halle a/s Germany.

In this volume the writer gives such a minute and comprehensive description of the various methods of preparing gelatine emulsions, coating of plates, besides devoting several chapters on the intensification and reduction of gelatine negatives, bromide of silver gelatine paper for positive pictures and enlargents, orthochromatic views, etc., that the reader will hardly find a better and more instructive source of information than in this work with its 206 illustrative cuts princed in the text. The price is eight marks.

Photo Lighting. By Felix Raymer. Published by H. A. Hyatt, St. Louis, Mo.

If the number of inquiries regarding studio lighting we have received is any criterion the above book should find a ready sale. All points covering lighting in photographic studios, the various so-called styles, etc., are treated fully, and the illustrations really illustrate. The chapter treating on the lighting of draperies is worth the price of the entire volume. The author says: "There are no two operators who can agree on all things, and few that will agree on anything." However, from a careful consideration of this volume we are of the opinion that all will agree as to the practical value of this book.

The A B C of Photography.—By Fayette J. Clute. Camera Craft Publishing Co., San Francisco, Cal.

The aim and scope of this little book is perhaps best explained by quoting from the preface: "The tyro seeking to avail himself of the benefits of the study and experience of a past master finds it *presumed* that his knowledge of chemistry, of optics and of the photographic terms employed will guard him against committing just those particular errors which he finds most difficult to avoid. This is the weak point in all text books for the beginner written by authorities on photographic processes. . . . In the following pages I shall presume that the reader knows absolutely nothing regarding photography." The author has kept his word, and we can commend this book to all amateur photographers.

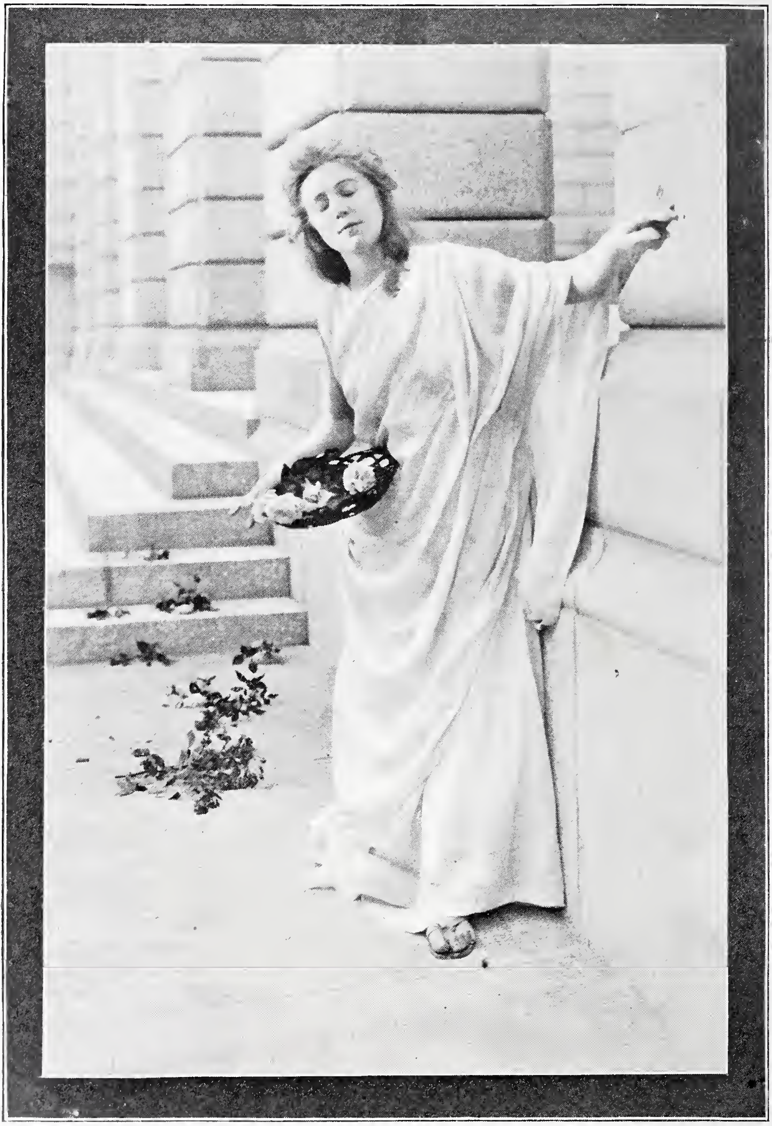
The developer-pamphlets of the well-known Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany, having met with great sympathy in all photographic circles in the United States, where these booklets had a circulation of 100,000 copies some time ago, the said firm has been induced to issue a new edition, of which we have a copy in hand. The tastefully-bound booklet bears the title of "Agfa-Handbook of the Agfa-Developers and Specialties of the Actien-Gesellschaft für Anilin-Fabrikation," and contains in thirty-eight pages very instructive communications on the excellent Agfa-Developers: Rodinal, Eikonogen, Amidol, Imogen, as well as on Agfa-Intensifiers and Agfa-Reducers. An abundance of well-proven formulæ and hints, in connection with opinions of prominent photographers, etc, make this handbook very valuable for consumers of Agfa manufactures, and for those who intend to become such. We strongly advise all interested to procure a copy.

Photograms of the Year 1902. Dawbarn & Ward, Ltd., London.

The eighth annual volume of Photograms is fully up to the standard set by the publishers in the first volume issued. The book, from cover to cover, is full of interest, the articles timely and instructive, the illustrations well executed and of so great variety as to meet with approval of the various "schools."

The 28 pages of "Hints to Would-be Picture-makers," from the pen of the Editor (H. Snowden Ward) have been based upon the queries and difficulties of numbers of amateurs who send their prints for criticism, and although little that is new can be said, on composition, light and shade, tone-rendering, etc., we believe that the old matter is freshly handled and illustrated, and in a way specially applicable to the photographer.

Experts in the various countries have helped to make the publication truly international by selecting pictures from their leading workers, and by contributing notes on the local tendencies. Thus, in addition to the chief criticism by Mr. A. C. R. Carter, there is a French section by Robert Demachy; American, by Alfred Stieglitz; New Zealand, by Josiah Martin; German, by Ernst Juhl; Australian, by A. J. Hill-Griffiths.



NYDIA. By Will H. Walker.

TRADE NOTES

Proverbs from the Divan of a Persian Photographer.—I. It is safer to back a plate than to back a horse.—*Malik of Naishdpúr.*

John Carbutt, Esq.:

Dear Sir: The backed Eclipse plates received from you are very fine. I have secured some negatives that would have been impossible without the backing. I can't find any developer that equals your M. & H.

Yours truly, F. B. H.

Rome, N. Y., April 28, 1902.

Postal Telegraph Cable Company,
Office of the General Superintendent,
Western Division,
Chicago Stock Exchange Building,
Room 1305.

E. J. Nally, *Gen'l Sup't.*
C. M. Baker, *Ass't Gen'l Sup't.*

Chicago, Ill., October 30, 1902.

H. F. Paine, Esq., City—*Dear Sir:* While looking in a storeroom closet for a 1900 magazine, I found a few sheets of your incomparable Carbon Cyko in a broken gross box, which, in some manner, had been mislaid and gotten in there. Owing to the fact that they had been exposed to all kinds of weather for over two years, due to a window being continually open for ventilation, I supposed them worthless. Neverthless, from curiosity, I made a few prints, and to say the results surprised me, does not express it. Thinking you might desire to see the same, I send you herewith four prints, from negatives of varying density. I printed a little deep, in order to gray the sky; yet the high lights are quite clear and pure. Think I shall change the old motto of "Liberty forever" to "Liberty and Cyko forever.

Very truly yours,
T. S. Gillette.

HAMMER PLATES AS A WORLD PLATE.

Tuscaloosa, Ala., 4/15/02.

Hammer D. P. Works, St. Louis, Mo.

Gentlemen—Below I give you a formula for developer, which I have used on your plates with very good results, in fact I prefer it to any I have used. I write to ask if you can suggest any improvement in this. I am anxious to get all there is and the very best results. I have used your plates in Cuba, Phillipines, New York and here. Find them the best all around plate made in the world.

No. 1.

Water	64 ozs.,	for use
Eikonogen	1 oz.,	2 parts No. 1
Hydrochinone	¼ oz.,	1 part No. 2
Sul. soda	3 ozs.,	1 part water

No. 2.

Carbonate potash test, 50 per cent.

Yours very truly,
Chas. R. Turner.

Hammer Dry Plate Co.'s Double-Coated Plate.—A portion of a number of views taken at the Scottish Rite Cathedral in St. Louis, Mo., were published in a splendid souvenir in celebration of the opening of the finest and most ornate stage and equipment of any private organization in America.

The pictures appearing in the souvenir were greatly admired by all who were fortunate to obtain a copy, the uniform question being, who took the picture, and what make of plate was used, because it seems incredible that such results could be obtained by use of the camera, considering the subject treated.

The scenery is of theatrical nature, designed and painted by the Toomey & Volland Scenic Co. of St. Louis, and the effect is greatly to their credit, considering that they had nothing upon which to base their ideas, beyond a good knowledge of history.

The scenes are of the most varied nature, showing interiors in the most gorgeous colorings and intricate details; on the other hand, quite a number of out-door scenes of an Oriental nature, with all the historical characteristic incident to the period which they represent, all of which made it exceedingly difficult to obtain perfect negatives, and probably no other plates would have given such splendid results as are here represented.

The natural light in an auditorium is at best of an indifferent nature, which make the employment of electrical and flashlights necessary, and the result can be seen when the excellence of these illustrations is noted.

The number of drops or settings aggregate forty (40) scenes, some of them, as already stated, of exceeding richness in coloring.

The number of drops or pieces used in a setting augment or enhance the difficulty of obtaining a good negative, owing to the great depth to be produced, an exceedingly expert manipulation of lights became necessary, which is easily demonstrated by one, should they attempt to show such an interior, it being the rule that theatrical views rarely do justice to the scenic artist's effort, the general result being a flat representation of what should be a picture with good perspective, owing to the operator's lack of care or skill, and the employment of a plate not suited to the purpose.

When these pictures were taken there was no attempt to show anything but the scene itself, different positions or elevations being assumed to obtain best results.

An explanation of the manner in which these scenes were lighted might be of interest; there were used four border lights of seventy-five incandescent lights each, or three hundred on the four borders, the sides and bottom being lighted by six strip-lights of nineteen each, six bunch-lights of six each and two arc-lights, the latter being of four thousand candle-power each.

The operator demonstrated a correct appreciation of lighting, for without a perfect arrangement of the llghting the results here shown would have been absolutely impossible, halation would have intervened had not the greatest care been exercised in manipulating light effects however the extreme latitude of the plate employed. A property which is possessed by few others enabled the operator to produced these magnificent pictures.

UNSOLICITED.

THE WILLSON ALUMINUM CO.,
HOLCOMB ROCK, Va.,
NOV. 18, 1902.

INFALLIBLE EXPOSURE METER CO.,
BROOKLYN, N. Y.

Dear Sirs: You may be interested to know that a skeptic in regard to exposure meters has been completely converted, and now would not be without one of "Wynne's Infallible Exposure Meters" for the price of a gross of plates.

Last Sunday I exposed two dozen plates—Cramer's—and in every instance submerged my own judgment in the testimony of the Wynne meter, exposing exactly as the meter advised.

The exposures varied from 1-50 second to 25 minutes, the last a very dark interior, and various sizes of stops were used.

On developing with normal pyro the exposures proved, without exception, correct, and needed no doctoring to produce fine negatives.

The best of us go wrong in our judgment of the exposures required very often, but it has been my experience since using the Wynne Exposure Meter that this admirable little instrument is always correct in its judgment, provided the user is not color blind.

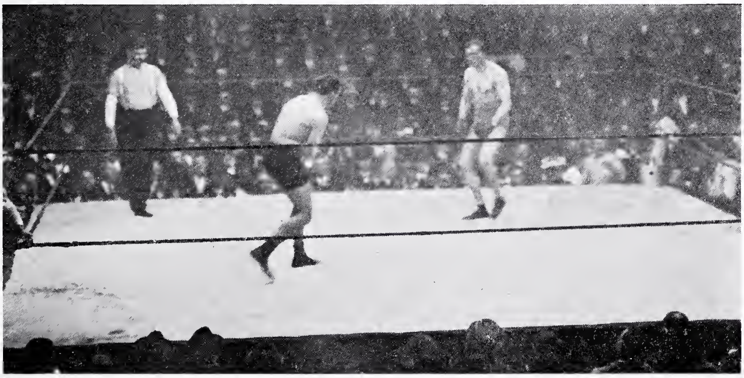
Yours very truly,
GEO. O. SEWARD,
Resident Chemist and Manager.

We understand the Infallible Meter Co. are bringing old meters up to date, furnishing new glass, dial, and latest standard tints and new speed card for fifty cents.

Bausch & Lomb-Zeiss

PLANAR *f*-3.6

What does *f*-3.6 mean? It means a speed 4⅓ times faster than *f*-6.3 and nearly three times as fast as *f*-5.4; a rapidity which permits the taking of snap shot pictures at night by artificial light, as the attached photograph made by Mr. Carl Ackerman, editor of Camera Craft, demonstrates.



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Fastest Anastigmat in the World

It means absolute anastigmatic correctness and flatness of field, it means doing the heretofore impossible in many lines of photographic work.

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New York　　Rochester, N. Y.　　Chicago

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and the rear combination as well — contain the secret of success in modern photography. How unwise to buy one of the ordinary lenses when the

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CONVERTIBLE ANASTIGMAT

gives every optical quality required, and in addition its single systems (each having four lenses) can be used for long distance, landscape, portrait and many other kinds of work at snap shot speed, and can be had to give pictures of three, six or ten different sizes of an object from the same standpoint

Bausch & Lomb Optical Co.

New York ROCHESTER, N. Y. Chicago

The Photographic Times-Bulletin

An Illustrated Monthly Magazine devoted to the Art, Science and Advancement of Photography. Issued on the first of Each Month.

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ADVERTISING RATES WILL BE SENT ON APPLICATION.

Copy for advertisements must be received at office one week in advance of the day of publication. Advertisers receive a copy of the journal free, to certify the correctness of the insertion.

All literary contributions, correspondence, "Queries," etc., should be addressed to The Editor; all advertising matter to the Advertising Manager.

THE PHOTOGRAPHIC TIMES-BULLETIN PUBLISHING ASSOCIATION,
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Business Opportunities.

I CAN SELL YOUR BUSINESS, no matter where it is. Send description, state price, and learn how. Established 1896; highest references; offices in fourteen cities. W. M. Ostrander, 1550 N. A. Building, Philadelphia.

AN ITALIAN FIRM, whose travelers visit frequently during the year the entire Italy, desires agencies for all kinds of photographic articles. A1 references at disposal. Address, in French language, Cassetta Postale, 72, Milan, Italy.

Wanted.

WANTED—Lady Retoucher; steady position; one that is willing to attend reception room part of the time. Address, Stamper's Art Gallery, Sonna Block, Boise, Idaho.

WANTED—Retouching by the piece; all work first-class; reasonable rates; expressage paid one way. Address, Retoucher, 9 Hornell Street, Hornellsville, N. Y.

WANTED—An able-bodied Photographer; must be good printer and retoucher. Send specimens of work (unmounted), photo of self, and state salary expected, in the first letter. Invalids requested not to apply. Address, Brock & Koonce, 59 South Main Street, Asheville, N. C.

For Sale.

FOR SALE—Photo Studio, all complete. Speak quick. Address, E. R. W. Twilley, 125 Main Street, Salisbury, Md.

FOR SALE—A first-class Studio, in San Diego, Cal. Price, reasonable. For particulars address, Box 682, San Diego, Cal.

FOR SALE—Studio in Western New York; population, 22,000; has reputation of doing best work in city; reasons for selling given to parties interested. Address, K, care of The Photographic Times-Bulletin, New York City, N. Y.

FOR SALE OR TRADE—18 x 22 Camera, telescopic bed; 6-foot bellows when fully extended; front half conic shape; lever focus, using front D. S. curtain slide. All in splendid condition; would trade for 7-B Suter, or any good 11 x 14 R. R. lens. Address, Theodore A. Brown, Marshalltown, Iowa.

FOR SALE—A first-class Studio; centrally located in best business block; elevator, electric light, heated with hot water, fitted up to 11 x 14 in., both portrait and view, with Dallmeyer lens. Awarded first premium on portraits at Idaho State Fair, October, 1902—also in previous years; the oldest and best established, largest and most conveniently arranged gallery in Idaho, doing at present $450.00 per month, and $2,000.00 takes everything. Visit with us a month and be convinced that this is the best bargain in the West. Address Stamper's Art Gallery, Sonna Block, Boise, Idaho.

Employment Wanted.

Advertisements of Operators Seeking Situations will be Inserted Free of Charge.

YOUNG MAN desires position as Printer; experienced in general studio work. Address, Henry Jacobs, 909 Manhattan Avenue, New York City.

AT LIBERTY—Experienced Operator, Retoucher or Printer; Buffalo man; reliable. Address, L.E. Adams, 208 South Brady Street, Du Bois, Pa.

FIRST-CLASS OPERATOR AND RETOUCHER desires position; highest references. Address, John Kaplan, 41 First Avenue, New York City, N.Y.

SITUATION WANTED—Photographer; young man, nineteen, with *slight* knowledge of photography, wishes position to advance himself ($6.00 to start). Address, P. Ohnemus, 196 Park Place, Long Island City, N. Y.

A YOUNG MAN wishes a position as assistant Operator or Printer in a photographic studio; will work cheap, Address H. R. B., Post-office Box 45, Brussels, Ontario. Canada.

WANTED—Position by good View Operator—opportunity to work up in gallery preferred; one year's gallery experience. Address John Pohland, Algoma, Wis.

YOUNG MAN, twenty-five, having several years' experience, desires situation as Printer or dark-room man; strictly temperate. A first-class situation desired rather than high wages. Address F. M Travis, Chesham, N. H.

WANTED—Permanent position in Studio or copying house, by a lady of experience in first-class studios, as Reception-room Attendant, Spotter, Retoucher and general assistant Address Artist, Box 88, Clinton, Conn.

Operators Wanted.

WANTED—Young lady Printer and Retoucher, who would like steady work in a first-class Studio. Send references and photograph of self. Address R. M. Knipple, McCook, Neb.

WANTED—A first-class Retoucher and general assistant. Permanent position. Address W. H. Hoffmann, Savannah, Ga.

WANTED—Models for artistic poses. Address, with photograph, Frank G. Barry, Herkimer, N. Y.

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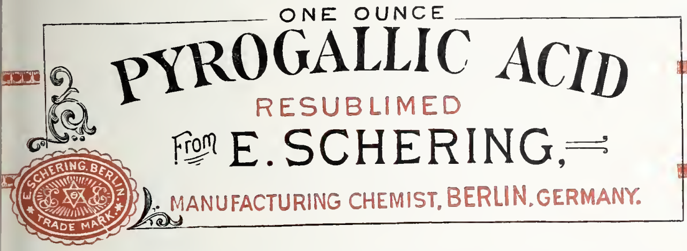

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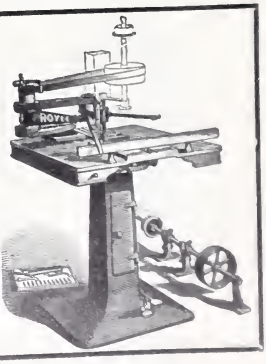

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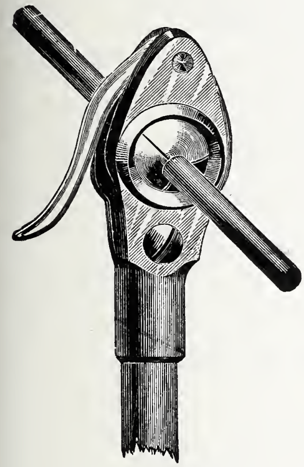

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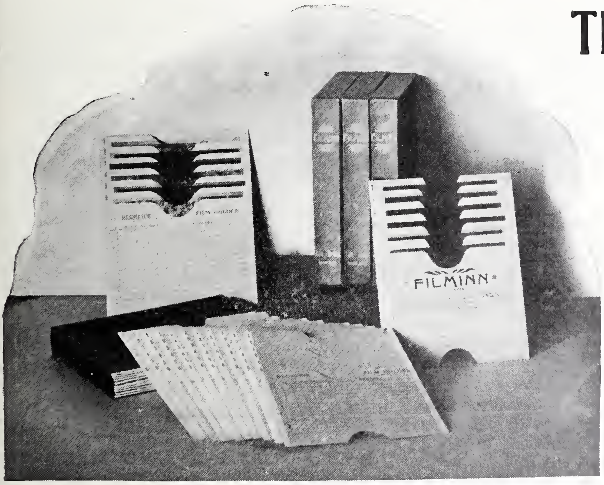

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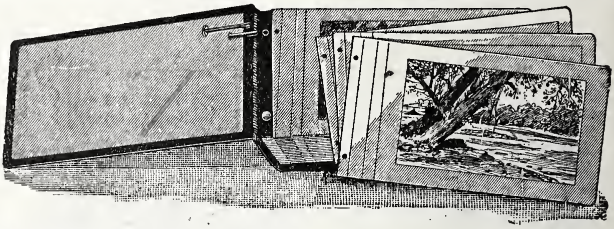

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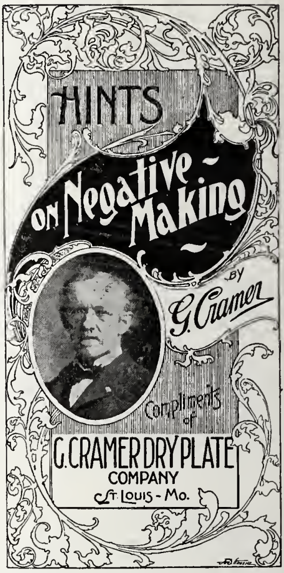

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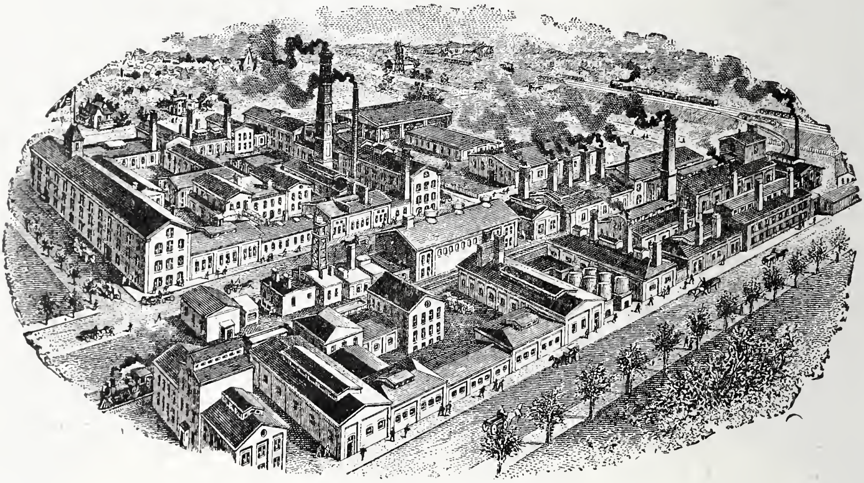

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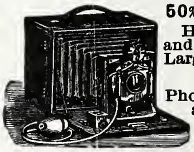

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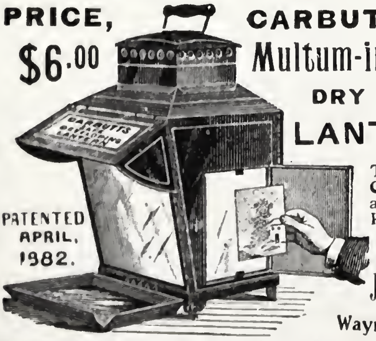

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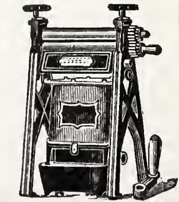

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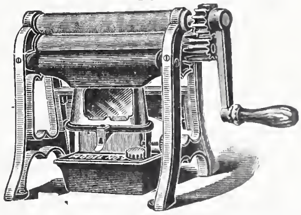

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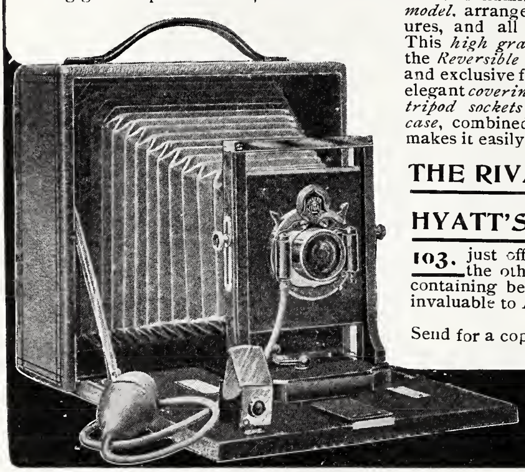

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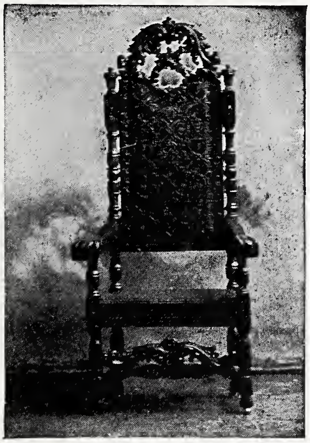

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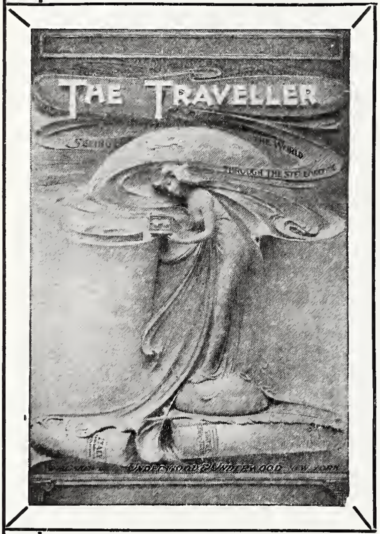
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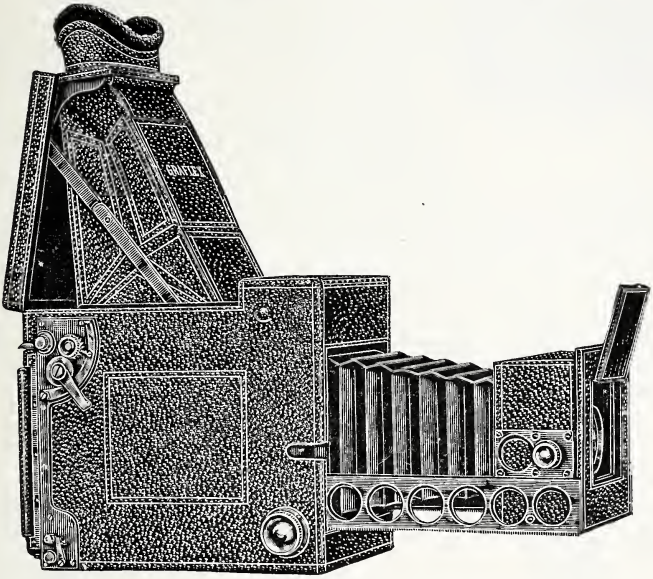

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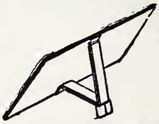

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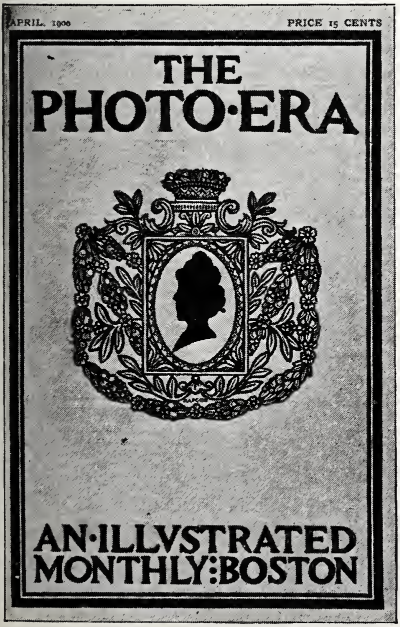

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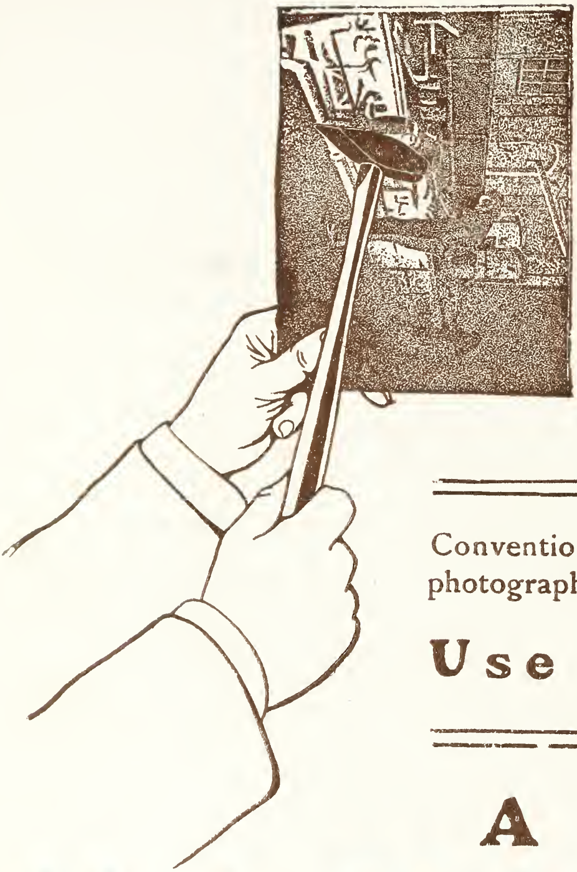

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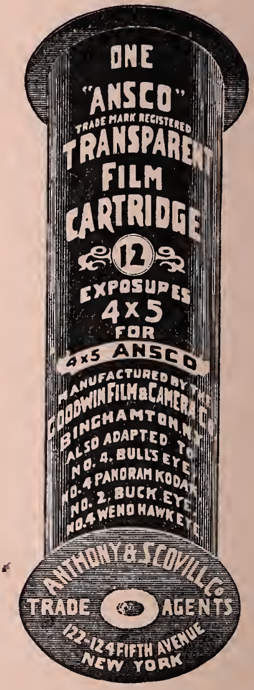

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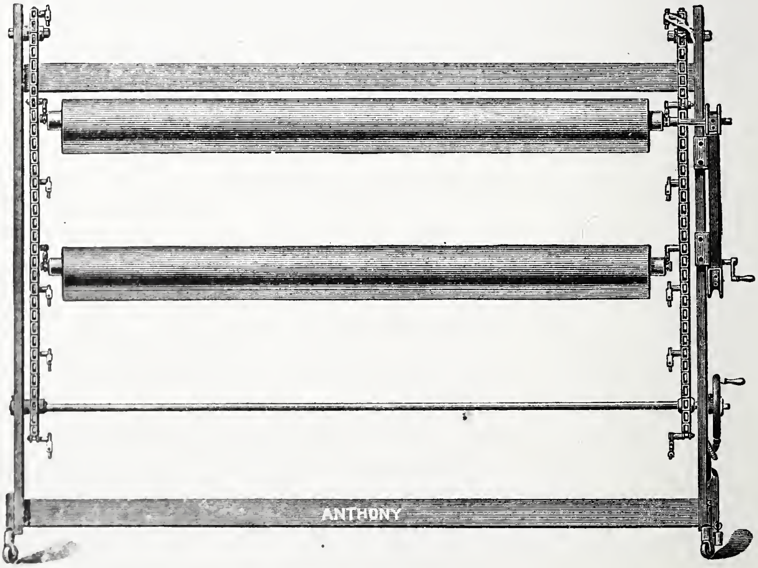

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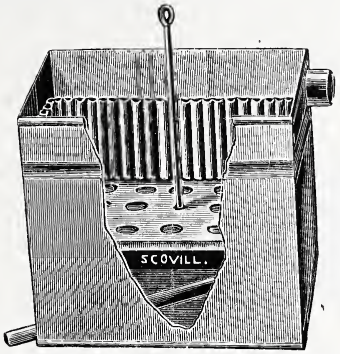

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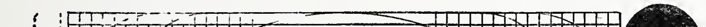

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With this Retouching Solution more negatives can be retouched and better work done than in the old way. For retouching locks of hair, scratches, and wrinkles in dresses a Faber No. 2 H. H. may be used, and for general work a harder lead.

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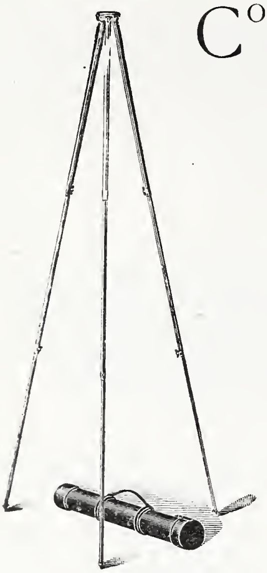

COMBINES extreme strength and rigidity with light weight, beauty and compactness. This tripod is made of tempered sheet steel, in three telescopic sections, and all hinged joints are riveted. It has no parts to warp and no wood screws to become loosened. It is provided with a patent adjustable head by which the camera may instantly be clamped in any required position without moving the tripod legs. This device is especially valuable when working on uneven ground or when pointing the instrument upward or downward for photographing high buildings or from great elevations. It is suitable for all hand, folding or regular view cameras. Its weight is only 32 ounces, its length folded only 20½ inches, and height when open 55½ inches. Each section may be securely clamped at any height with perfect ease, and without danger of the sections slipping under the weight of a heavy camera.

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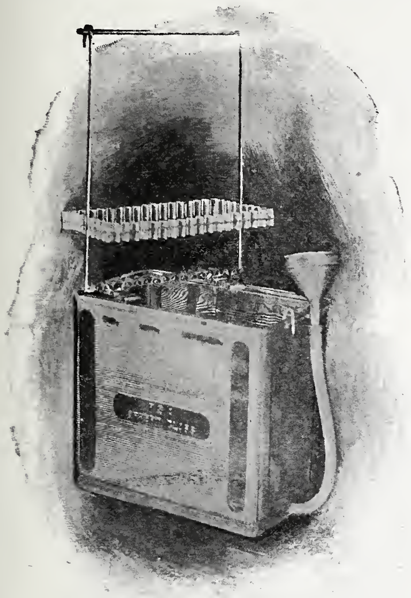

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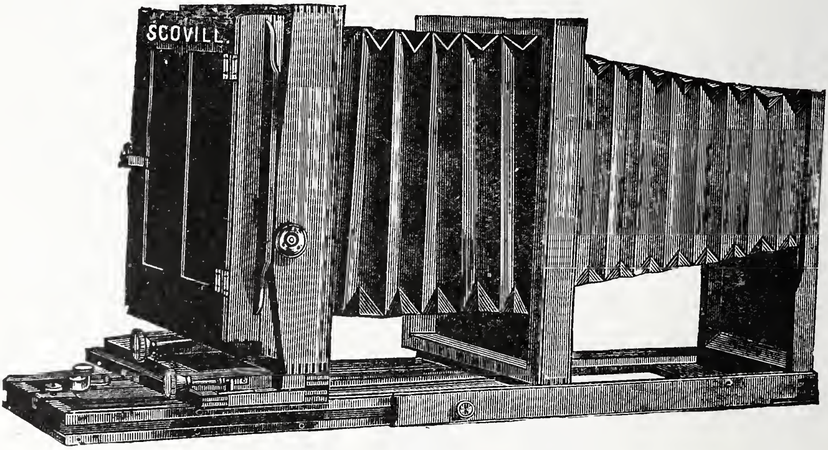

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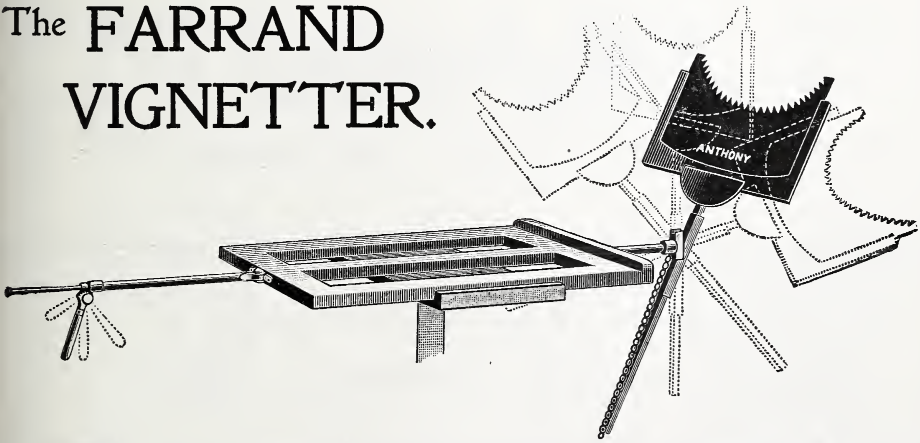

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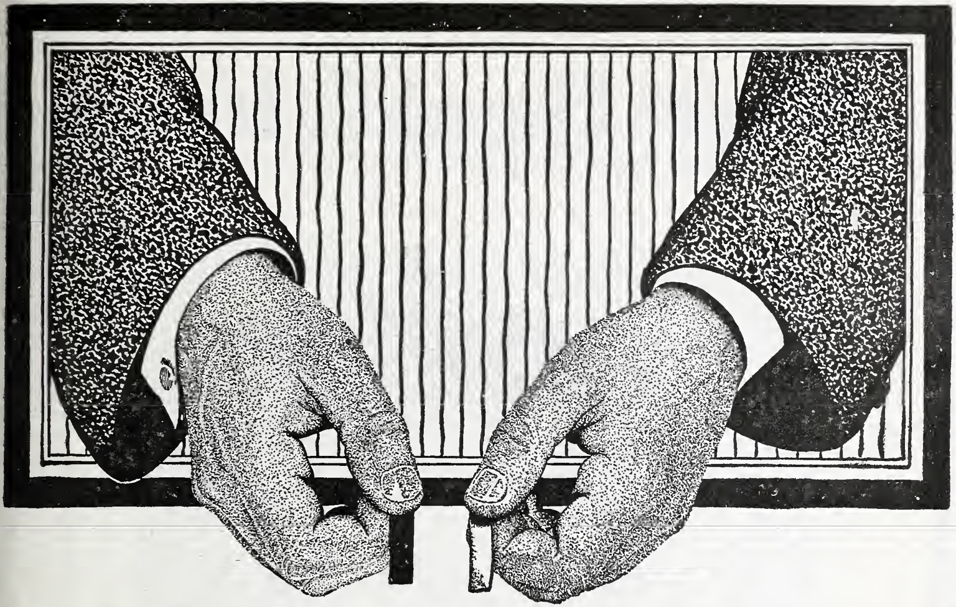

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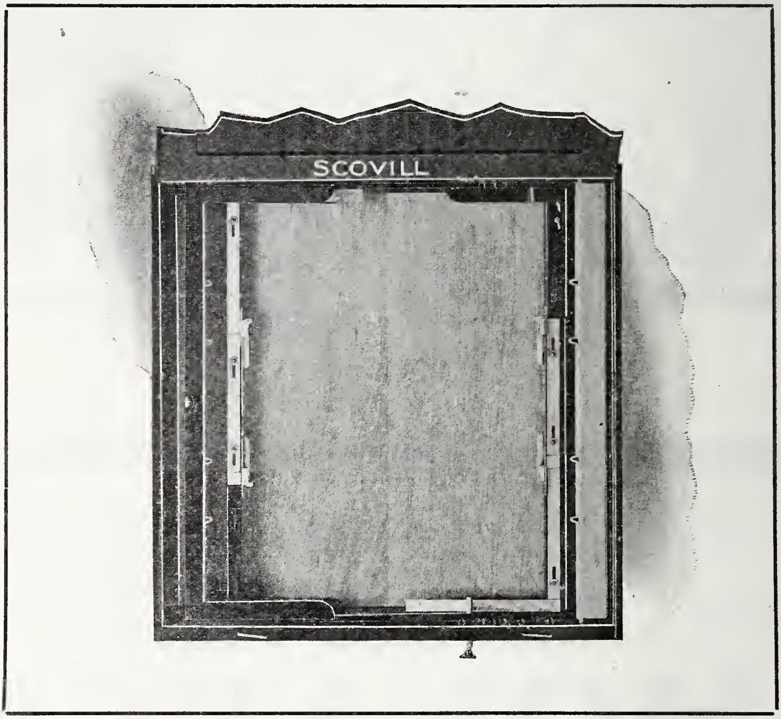

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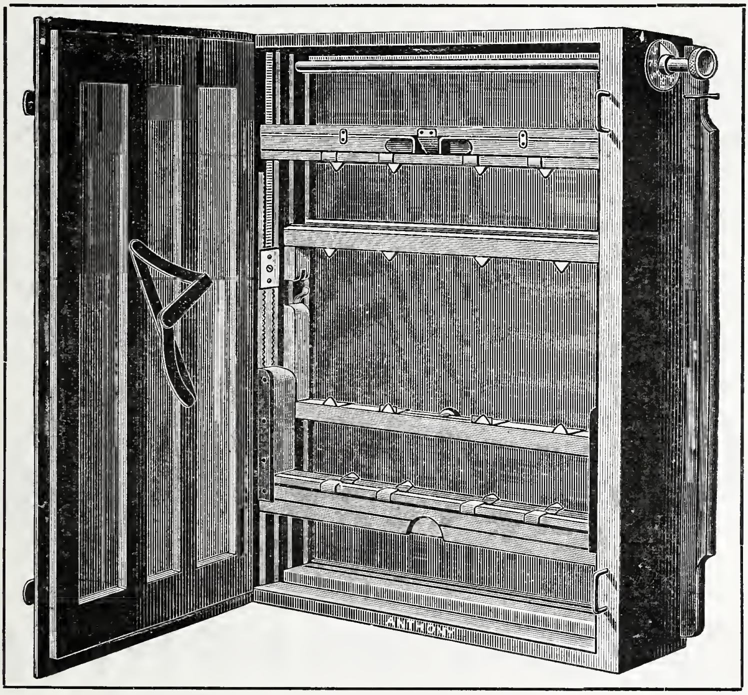

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8 x 10 .	32 00	35 00	42 00	48 00	54 00	68 00	82 00
10 x 12 .	40 00	52 00	70 00	80 00	95 00	110 00	130 00
11 x 14 .	60 00	80 00	98 00	115 00	135 00	160 00	185 00
12 x 15 .	75 00	100 00	120 00	142 00	170 00	200 00	230 00
13 x 16 .	95 00	122 00	144 00	172 00	208 00	240 00	280 00
14 x 17 .	115 00	145 00	168 00	208 00	252 00	280 00	340 00
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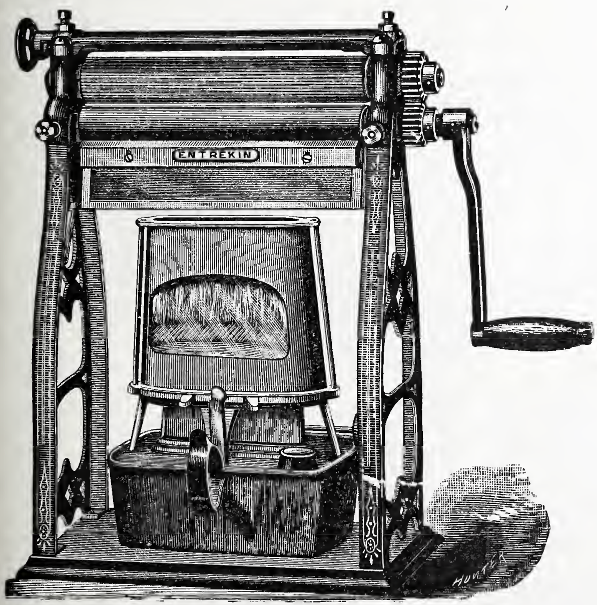

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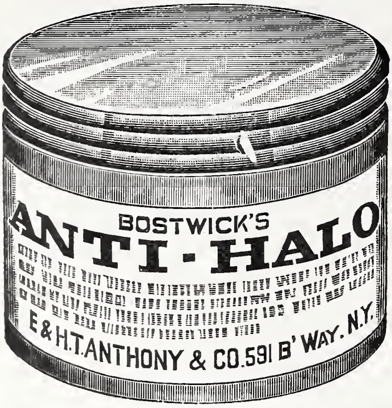

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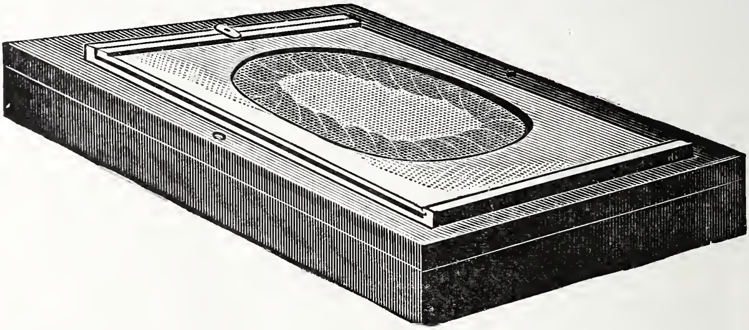

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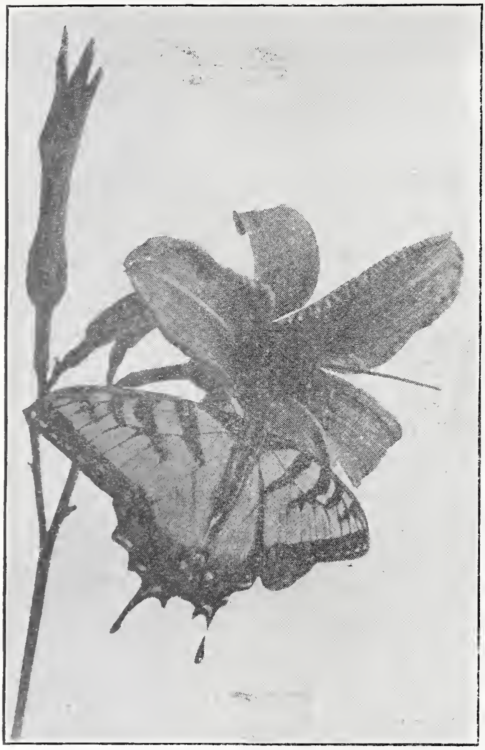

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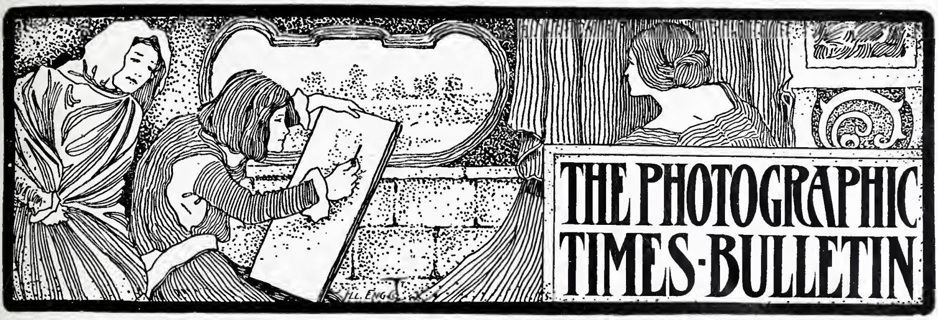


EDITORS: PROF. CHARLES F. CHANDLER, PH.D., LL.D., SPENCER B. HORD.

VOL. XXXV. FEBRUARY, 1903. No. 2.

CHILD PHOTOGRAPHY.

BY NAT. AUKERMAN.

In successful child photography the most essential matter is the ability of the operator to become a child at will, to know childish nature and be in sympathy with it. To do this he must be a friend of children, yes, even more, he must love them, then and then only will he be able to affect them with his true feeling and thereby win their merited confidence.

If you do not possess a love for children you will save time and effort by aiming at some other point for success. A child cannot study human nature nor form an opinion of the character of a man or his desirability to become a friend, but it has even greater ability, for in it nature has implanted an instinctive knowledge which cannot be overcome by the products of even a matured and highly developed mind, and however well directed this intended kindly feeling may be put if it finds no responsive chord in the child's nature falls dead and is lost. On the other hand, if love and true sympathy exists in the operator the responsive chord in the child is at once set in motion "and the child is won."

On the entering of a mother and child into the studio but very little attention need be paid the mother, as any attention paid the child or any kindness shown will be received with equal gratefulness by the mother. Here you must be able to at once get in touch with the child, not only in pretence but to feel that you are in accord with the child's sympathies. This feeling, if it be true, will act through the sympathetic medium existing between man and man and you are friends.

You can now dispense with the service of mother, nurse, or anyone else, and the child will be jolly or serious, laugh or pout at your will. By telling a simple story about things of which it has some knowledge, you will be able to get just what you want in way of expression, etc. A story about a dog, or doll, or bird, or anything that might seem most interesting. While you are doing this you will have gotten ready to make the exposure, and at the proper point in the story, pause for a moment, and while waiting for you to finish, the child will most invariably be perfectly steady and have an intensely interesting expression, and when you have succeeded in provoking a laugh, pause—then continue. While laughing, of course they will be unsteady, however, after the pause when the story is continued, they will be all attention while still retaining the same happy expression, and so on through all the child's moods. Try this a few times and you will be surprised at the results.

A laugh is infectious, and by its skillful use some wonderfully pleasing results can be obtained. I have gotten some excellent things by causing a child to laugh, and in settling back to seriousness arrest its attention at the point wanted, and an exposure made while almost perfectly steady, yet retaining the desired expression

In may be necessary in some cases to get down on the floor to play with a child, or romp about the studio with it, but the final results always more than recompense you for any effort you may have made.

In my experience I have found it advisable to dispense with all toys or playthings to amuse, except it be something necessary to the make up of the picture, and now I never show nor allow anything to be given them to amuse, as I find much more satisfactory results can be obtained if the operator is given the child's attention.

In infants or very young children the same method is brought to bear, except with sounds instead of words; after getting the attention, a short silence, then a soft chuckling laugh will cause a smile to break on the child's face, a more hearty laugh will be taken up by the child, and so on you can bend it almost to your will, and when through you have a feeling of satisfaction that you have done your duty and succeeded well, and you will have thereby not only launched higher professionally, but grown stronger financially, not counting the gratefulness of a mother and the fondness of the child, which you can bid a cheerful good-bye, and bow the mother out of the room with a feeling of mutual satisfaction.

Once a child's confidence is won it is practically under the operator's control, and the possibilities are almost limitless in the way of getting life and feeling into your work; you get individuality, character, that something that vibrates and lives, that launches your work high above that of the mechanical recorder of faces. In short this is man's nearest approach thus far to creation.

THE GREAT WHITE LIGHT.

W. H. WALMSLEY.

IN the several articles contributed to THE BULLETIN AND PHOTOGRAPHIC TIMES ANNUALS of former years on the subject of photo-micrography, I have written rather fully of various light sources suited to the purpose, which are almost universally available the world over. The coal oil lamp, and Wellsbach incandescent mantle, acetylene gas and diffused daylight were alike treated upon, with practical methods for their utilization, and examples of work done by the aid of each. The more powerful and intense radiants—direct sunlight, the electric arc, the oxy-hydrogen or limelight, and the extremely active rays of magnesium—were not alluded to save in an incidental way. None of these light sources are so commonly and cheaply attainable as the others named, and since I was writing for beginners and students more particularly, were not included in the list of radiants given in the several papers.

More recently the general introduction of the electric current, at moderate cost, has made its use possible in many cases where it would not have been available a very few years ago, and this seems to render a brief description of its capacities for the purpose, together with some methods of utilizing them, that have come into my experience, of possible interest and benefit to others.

Next to direct sunlight the electric arc is without doubt the most powerful and perfect illuminant for photo-micrography of which we have any knowledge. The magnesium light may be somewhat more highly actinic, but in no other particular can it be compared with it. The perfect control had over it; the intense whiteness and brilliancy of its rays; their steadiness and continuance without change for any desired length of time, together with the comparative cheapness of installation and maintenance, combine to render this form of radiant superior to any and all others for general use. Direct sunlight is in some ways superior, but since it can be made available only during the day, and cloudless ones at that, its usefulness is greatly curtailed in comparison with the electric arc. With this duly installed, the photo-micrographer becomes entirely independent of outside conditions; storm or darkness are alike to him. He merely turns a switch and "The Great White Light" flashes into instantaneous being from an unseen source. It flows as water from the tap. He has merely to adjust the carbons at the start, and they will burn steadily without further attention until consumed, assuming that the lamp is of an improved automatic type. If for any reason a cheaper "hand-feed" lamp has been chosen, it will require some attention on the part of the operator (especially at the moment previous to making the exposure), in order to keep the glowing crater or point of light exactly in the optical axis. For this reason an automatically-fed lamp is greatly to be preferred, although equally as good work *may* be done with one of the other form.

In selecting a lamp it will be necessary to have it adapted to the voltage of the current to be used. The latter must be a direct one; an alternating current will not answer for the purpose at all, unless used with a transformer, which is a somewhat costly matter. Care should also be taken that the lamp is of a form in which the carbons are inclined at an angle of some 45° to the optical axis of the apparatus, instead of being placed vertically, as in lamps used for street lighting and other illuminating purposes. It should also be so arranged that all necessary manipulations of the carbons—forward or backward, up and down, or sidewise—may be readily effected outside of the lantern, and the carrier of the upper or positive carbon should be so constructed as to facilitate adjustment with the lower or negative carbon in such a manner as to permit the formation of a crater upon the side of the former facing the condenser, instead of at its end, as with vertically fitted carbons. The majority of the illuminating rays are thus projected forward in the optical axis of the instrument instead of downward, as with ordinary vertical lamps. Reference to the accompanying diagrams may render this more clearly than the written description. Fig. I. shows the carbons set at the angle facilitating formation of a crater somewhat on the side of the carbon, and the consequent projection of greatly more light forward in the optical axis than is possible with vertically set carbons, as shown in Fig. II.

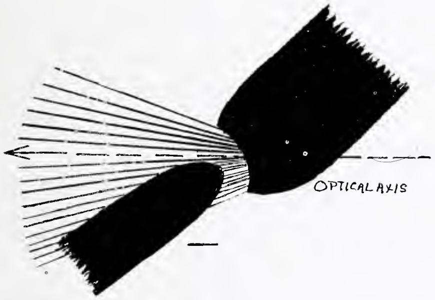


FIG I

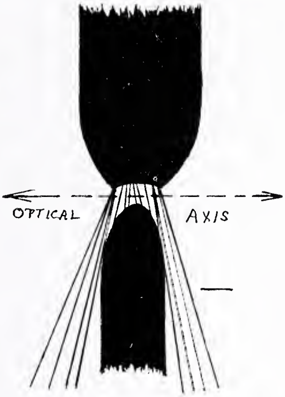


FIG II

The lamp should be screened in such a manner as to prevent any escape of the blinding light into the room, or to interfere with the operator whilst focusing, especially with high powers. The ventilation of the enclosure or lantern should be carefully provided for, as much of the heat is thus dispersed and rendered harmless which might otherwise be communicated to the optical portions of the apparatus with harmful results. I cannot, however, agree with a distinguished writer, who says: "If the air space around the lamp and between it and the substage condenser is properly regulated, a water or alum bath to absorb heat rays will not be found necessary." If there were no condenser between the radiant and microscope this might hold good, for it is not the rays radiating from the arc which are to be dreaded, but those which are condensed and brought to a focus by the lenses of the optical bench, or whatever arrangement may be used in place of the latter. Should there be no heat intercepter in the shape of an alum or distilled water bath, and the convergent rays inadvertently focussed upon substage condenser, objects, or object upon the stage, they would make short work of either or all three. Of course, a careful operator would be likely to avoid such a disastrous contingency by constant vigilance, but it is far safer to provide against its possible occurrence in the first place.

To insure greater steadiness in the arc, a small, hard, negative or lower carbon should be used in connection with

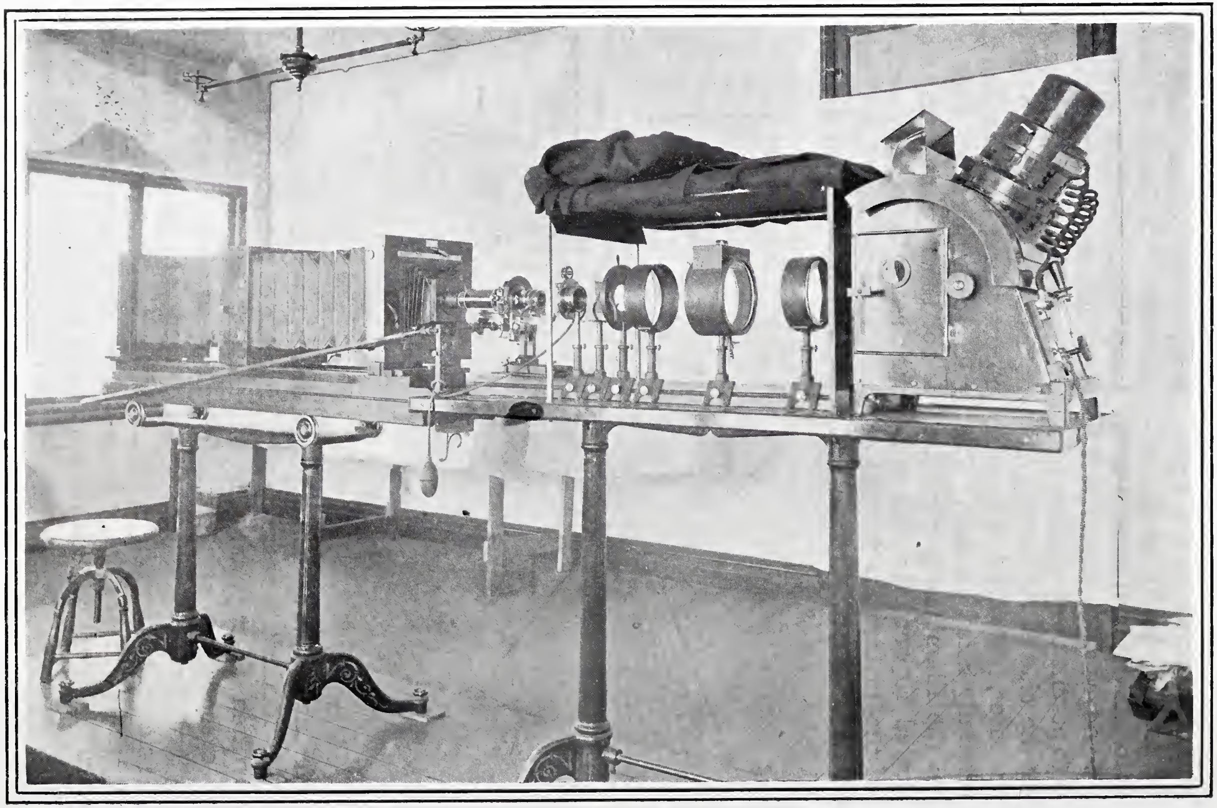


Fig. III.

a large, soft cored positive or upper one, and the wires should be so connected that the crater will always form upon the latter. A rheostat adapted to the voltage in use, must be employed to regulate the intensity and volume of the current. The constantly increasing demand for better projecting lamps has resulted in the production of several types of varying degrees of excellence and cost, so that there should be no difficulty in obtaining one embracing the several requirements already enumerated. In making his selection the photo-micrographer should be careful to note that it covers these, as they have been found necessary for producing the best practical results.

In case the lamp, optical bench and microscope are all furnished together, their manufacturer will of course so arrange them, that they shall possess a common optical axis ; but should one already possess a microscope and desire to use the electric arc as radiant, he must perforce adapt one to the other in such manner as to insure the coincidence of their optical axes, just as he would with a coal oil lamp or any other source of light. It is not within the scope of this article to give working directions for so doing, but the methods will be about the same as those required for adapting any other radiant to the microscope for photo-micrographic purposes.

The main features requisite in an outfit for employing the electric arc in photo-micrography having thus been briefly enumerated, I feel that a description of the very perfect apparatus, which it has been my privilege to use during the past year, may well close this article and perhaps add somewhat to its value. It is the property of The Wm. Pepper Clinical Laboratory of the University of Pennsylvania, having been added to its already elaborate and complete collection during the past year. Its purchase was determined upon after much careful hought, and the somewhat extensive use of photo-micrography in the daily work of the laboratory during the preceding year. This work was done by myself with my private apparatus, and was so highly thought of that the director in charge decided to add an outfit of its own to the laboratory's apparatus; at the same time proposing that it should be placed in my charge, a task most gladly undertaken, as it gave me the long wished-for opportunity of making a personal acquaintance with "The Great White Light" and its possibilities; since the electric arc was determined upon at the outset as the radiant. After careful examination it was thought best to import an outfit from Zeiss, including his latest and most complete microscope designed specially for photo-micography, with optical bench and arc lamp. The whole has proved so satisfactory in actual daily service as to leave but little to be desired. And yet if the purchase were to be made at the present time, I have no doubt but the choice would fall upon a similar outfit more recently introduced by The Spencer Lens Co. of Buffalo, N. Y., who have improved in several particulars upon the Zeiss models. The latter, however, are good enough in almost every particular to satisfy the most exacting demands. Both coarse and fine adjustments for focusing are the best I have ever used; the stage movements, though restricted in scope, are perfection in delicacy and precision, the whole revolving in the optic axis so perfectly that the object is not decentered, even under the highest powers. In some other respects the stage is villainously bad, as its movements are restricted to less than three-fourths of an inch in any direction, are not rectangular, and the object slide is secured in place by two miserable clips, which are constantly falling out of their fittings. In these important particulars the Spencer stand is immeasurably superior. The accessories comprise projection and compensation occulars, with a small battery of objectives, ranging from fairly low powers to a 2 mm. Horn immersion apochromat of 1.30 numerical aperture. The latter is an extremely fine lens for resolving delicate markings, diatoms, etc., but in tissue and bacterial work is not a whit superior to the Spencer homogeneous achromat, of same power and aperture, costing but little more than one-fourth as much. I say this confidently after many months' experience with both under the same conditions of subject, lighting and amplification, and it affords me pleasure to be able thus to testify in behalf of an American lens in comparison with the world's most famous productions. The achromatic substage condenser is fitted with iris diaphragm and very perfect centering adjustments, its front being removable to permit use with quite low powers. Further details of the instrument's construction do not seem to be necessary, the above embracing the most important features.

The microscope stands upon a small but solid metal table with levelling screws, firmly attached to a large and heavy platform or base board, which in turn carries the optical bench and electric lamp, all arranged for centering their optical axes accurately. The lamp itself is enclosed within a light-tight chamber of Russia sheet iron, ample in size to permit perfect ventilation and avoid over heating; all necessary manipulations of the carbons being effected from the exterior. Discs of dark-violet glass affixed to the door on either side, permit a view of the glowing crater without injury to the eyes. It embraces all the important features hitherto enumerated, and is perfectly automatic in operation. The light, once properly centered, will so continue until the carbons are burned out, if this be necessary. Its capacity is 20 amperes with a direct current of 110 volts, and the rheostat for its control is absolutely perfect and reliable under all conditions.

Thus far the optical and illuminating portions of the apparatus. The photographic ones are of course quite distinct. It was thought best to obtain the camera as designed originally by myself and made by The Scovill Mfg. Co. more than twenty years ago, having been listed by them as the Enlarging, Reducing and Copying camera. The Scovill & Adams Co. was commissioned to make it, with some slight alterations and improvements which use had suggested, but mainly without change from the original model. The box is square, with a capacity for 6½ x 8½-inch plates at the fullest, down to those of 3¼ x 4¼. The bellows are double, extending about 5 feet, the central division or support containing a door through which access can be had to the lens used for enlarging or lantern slide making. The front is fitted with a conical bellows, which permit the racking back and forth of the microscope tube to any desired extent without moving the camera itself, as must be done if the front of the latter is solid, as usually made. The board carrying this front bellows may be removed by the simple turn of a button and replaced by a sheet of ground porcelain, 6½ x 8½ inches, which forms a perfect surface upon which to project the image from the microscope when selecting a field of view. The plate-holders are single, arranged for insertion of plate from the back, either vertically or horizontally as may be requisite. The focusing screens are two in number. One is of plate-glass, very carefully ground by hand with carborundum flour, presenting an exquisitely fine surface, quite delicate enough for use with medium powers. The other is one of my gelatine surface plates, so frequently described. Both are accurately gauged to the same optical plane with that of the plate holders.

It being necessary that the camera and optical portions of the apparatus should be mounted on separate supports or standards, two tables with heavy cast-iron legs were provided. These are without tops, consisting of the uprights alone firmly braced together at the bottoms by an iron rod. On the front one is placed the platform, carrying microscope, optical bench and lantern; which is securely attached to it by screws running through the flanges at top of each leg, thus making an extremely rigid and firm erection. The second table, somewhat lower than its mate, and having four revolving grooved wheels on top, which carry a heavy platform considerably wider than the camera bed on V-shaped ways beneath, is placed in the rear of the first at some distance from it. The camera securely attached to this platform may thus be rolled forward for attachment to the microscope tube, or back to permit access to the latter for centering radiant and condenser with the other necessary manipulations. Leveling screws being attached to the tables as well as to the microscope itself, it is quite easy to adjust the exact centering of the optical axis throughout—which once done and the table legs fastened to the floor—remains unchanged after months of continued work. Indeed, so accurately was I enabled to adjust this necessary centering that the image of a minute opening in centre of the large iris diaphragm on optical bench is projected upon the exact centre of focusing screen, six feet distant, after the light rays have passed in succession through the substage condenser, objective and ocular. So thoroughly excellent is all the workmanship that the camera may be run back to its fullest extent, and after the adjustments to microscope are completed, again rolled forward until automatically connected with the latter, without causing the slightest variation in the optical axis of any part of the complete apparatus. This light excluding connection is affected by means of a blackened metallic cap on the front of camera fitting over a smaller one of same character on the end of the microscope tube, as seen in Figs. III. and IV. of the accompanying photographs, which serve to show in a fairly satisfactory manner the general arrangements of the whole apparatus, with most of its important details. Although the room in which it is installed is quite a large one, it was unfortunately necessary to place the apparatus in a position that required a short focus wide angle lens to photograph it. Hence the shortcomings, which I trust my photographic friends will mercifully overlook.

Fig. III. shows the entire apparatus with camera and microscope connected and focusing rod in place for use when the bellows are extended. Practically, it is better to obtain the requisite amplification of a subject by increasing the power of objective employed rather than through bellows extension, but at times the latter becomes necessary, and it was thought proper to show the apparatus thus arranged. It will be noticed that the extreme front of the platform on optical table is occupied by the lantern containing the electric arc, the current being supplied through the insulated conductor, shown at its back and running from the rheostat (not shown). The carbons are manipulated by means of the large insulating fibre discs, seen on the side and rear end of lantern, the process being viewed through the violet glass, set in the doors on either side. A circular opening, six inches in diameter, in centre of the lantern's front, furnishes the only avenue of escape for the intense light engendered within its opaque shell. The optical bench placed immediately in front of this opening consists of an accurately planed triangular bar of iron, some three feet in length, extending forward toward the microscope at the other end of the platform, to which it is firmly attached at either end. Clasping this bar, and sliding smoothly upon it, are six saddles, carrying the various accessories which make up the complete optical bench, each of which may be secured at any desired point by a milled head screw at its base, as shown in the illustration. Viewed from right to left, these are as follows:

Next to the lantern and of same diameter as the opening in front of latter, is a combination of two lenses which collecting the divergent rays emanating from the glowing crater of light, project them forward in parallel rays, most useful with low powers when passed through a ground-glass screen, and without the intervention of a condensing lens. Next in order to the parallelizer is the circular tank, with plate-glass ends, for containing distilled water, or solution of alum, or ammonia sulphate of copper, for absorbing the heat rays. In front of this tank is the condensing lens (plano convex), with the plane side turned toward the microscope, for converging and condensing the parallel rays when the substage condenser is used with high powers. The next saddle in front of this lens, carries a large iris diaphragm with fully four inches opening, which is provided with clips for holding ground glass or color screens. In turn, next in front of this, is a carrier for glass tanks containing colored solutions when necessary in orthochromatic photography rather than screens of glass. The next and final saddle carries the exposing shutter, working automatically from the 1/100th of a second to 3 seconds, or for any longer time at will of the operator. Finally on this platform is seen the microscope inclined to the horizontal position, the mirror removed, and the rear of substage condenser facing the light projected by the condensing lens on optical bench. The camera, having been rolled forward on its platform is shown connected with the microscope, the focussing rod in place, and the pneumatic bulb actuating the exposing shutter is seen hanging from the side of optical platform. The focussing rod is connected with the milled heads operating either coarse or fine adjusting screws at will, by means of a toggle joint, working delicately as could be done by the hand alone.

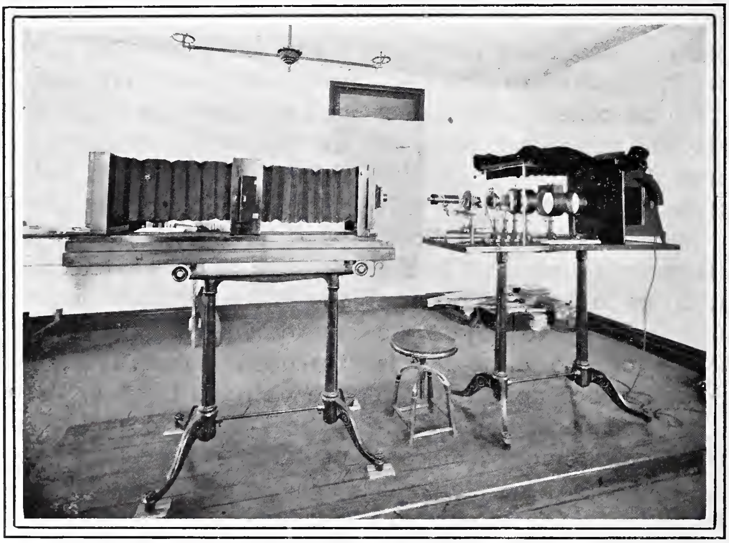


FIG. IV.

The entire optical bench is covered with a light wooden top, supported on metal rods and having a continuation for covering the microscope as well, (shown in Fig. V.), which being hinged, may be folded over the fixed top, leaving the microscope entirely open and free, Figs. III. and IV. A curtain of heavy black cloth depending from this top completely encloses both microscope and optical bench, thus preventing the escape of any light into the room, the microscope tube projecting through a small circular opening in the back curtain, as seen in Fig. V. The operator seated upon stool shown in same figures, can thus manipulate the substage condenser without the least annoyance from extraneous light, by slipping his hands beneath the curtain, his eyes being protected by means of a suitable screen attached to the iris diaphragm of the optical bench from the blinding light projected through the microscope. All necessary adjustments having thus been made it only remains to roll the platform carrying camera forward until connection is made with microscope, adjust the focussing rod in place, secure the sharpest focus upon the screen, and make the exposure.

As for the light itself the *perfect* utilization of which requires all of the appliances I have endeavored to describe, little more can be said than has already been done. It is perfectly steady in practice, cheaply operated after installation and infinitely more rapid in doing its work than any other radiant excepting always direct sunlight. Roughly speaking it is at least five hundred times quicker than a coal oil lamp with any given subject. Using slow isochromatic plates and color screen I find the usual average of exposure to be 1/5 of a second for well stained bacteria magnified 1,000, or even 1,500 diameters. Thin sections of tissues properly stained, require from 1/2 to 2 seconds with powers of 200 to 500 diameter. With the camera fully extended, a 1/12 oil immersion objective and No. 8 compensation ocular, giving 4,000 diameters, I obtained a very perfect negative of Pleurosigma angulatum with the *white dot* resolution, in 15 seconds. This enormous shortening of exposures is of the utmost importance in facilita-

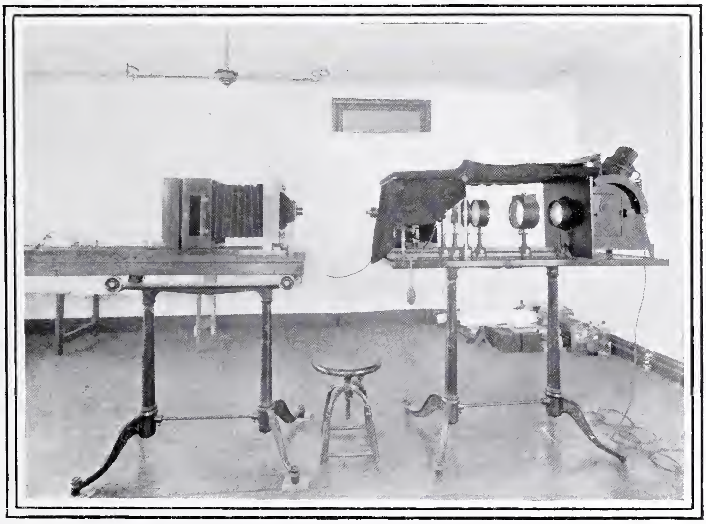


FIG. V.

ting work and lessening the chances of failure from vibrations during protracted ones.

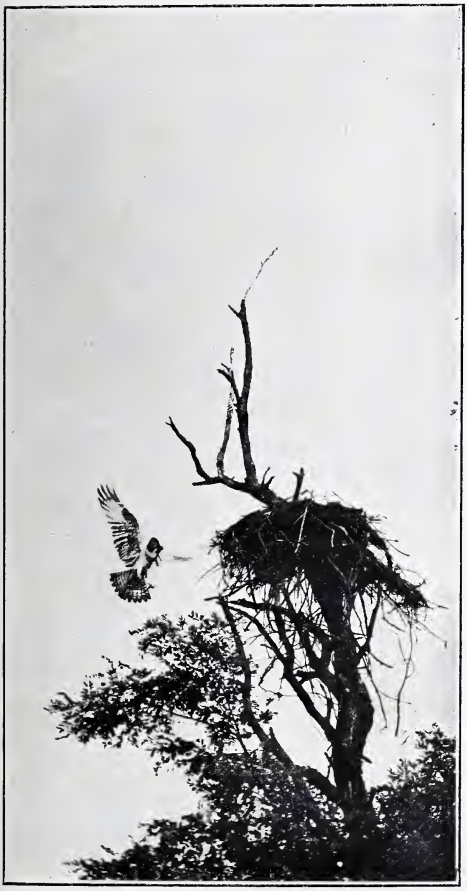
I had hoped to present with this, some illustrations of work done by the apparatus as described under varying circumstances, but find it impossible, as I am writing in the wilds of West Virginia's mountains, with no means of access to either prints or negatives. This hope must therefore be reluctantly abandoned. Another one, however, is ventured in behalf of my readers—that many of them may be equally fortunate with myself in having their work illuminated by the radiance of " The Great White Light."

THE STUDY HOUR. Dr. and Mrs. Henry Snow.

BIRDS ON THE WING, AS SEEN THROUGH THE CAMERA.

BY ALFRED J. MEYER.

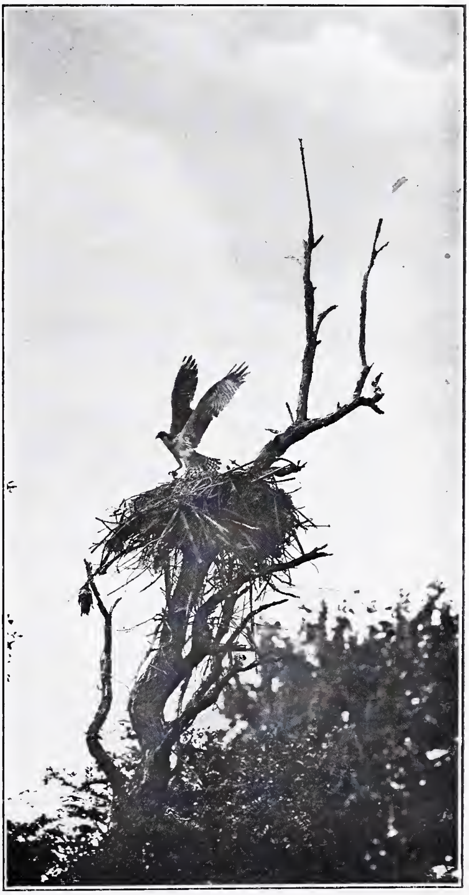
TO the ornithologist this field of photography is becoming more and more fascinating each year. The patience of Job is often required in securing camera shots at the feathered tribe.



Fish Hawk Returning to Nest.

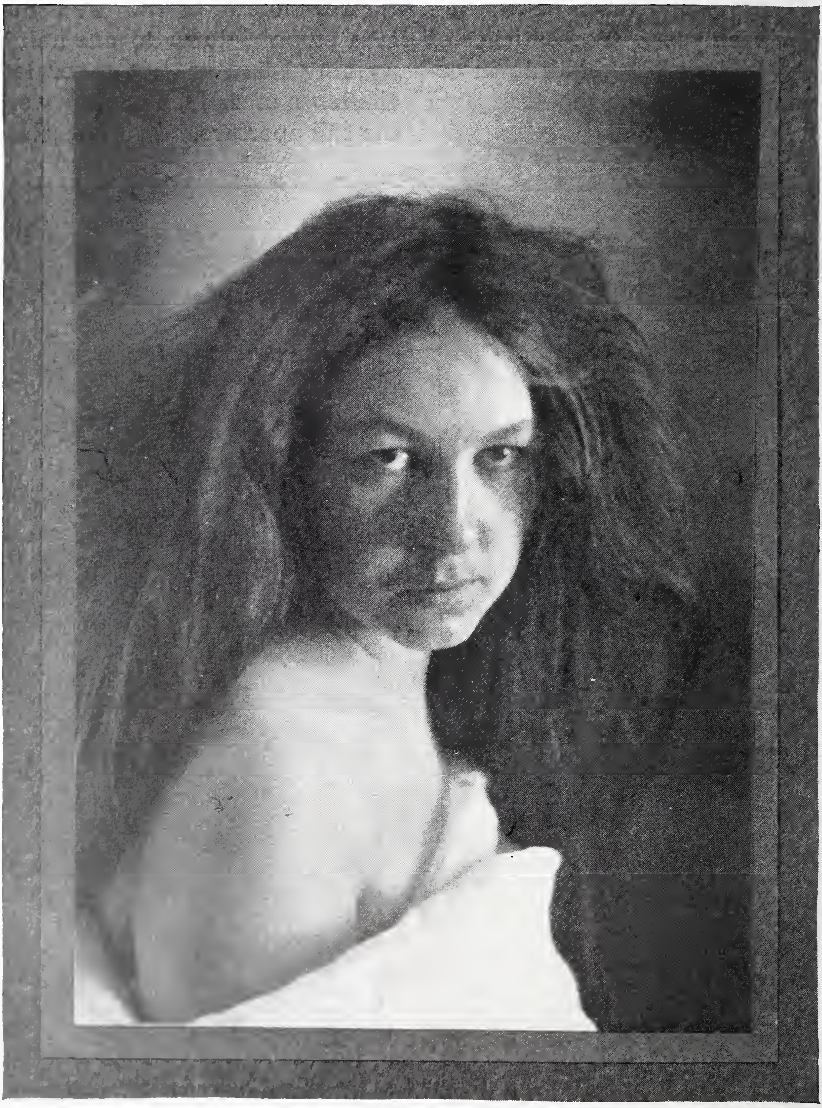
The first thing is to win the confidence of the bird, when this is had several exposures can sometimes be made with little caution.

An outfit consisting of a long focus attachment will be the most suitable for this line of work. The short focus lens stopped down to one half the full opening I find are not as serviceable as the lense of 24 inch or over working at the full aperture. This latter lens covers more area to an engraving sharpness.

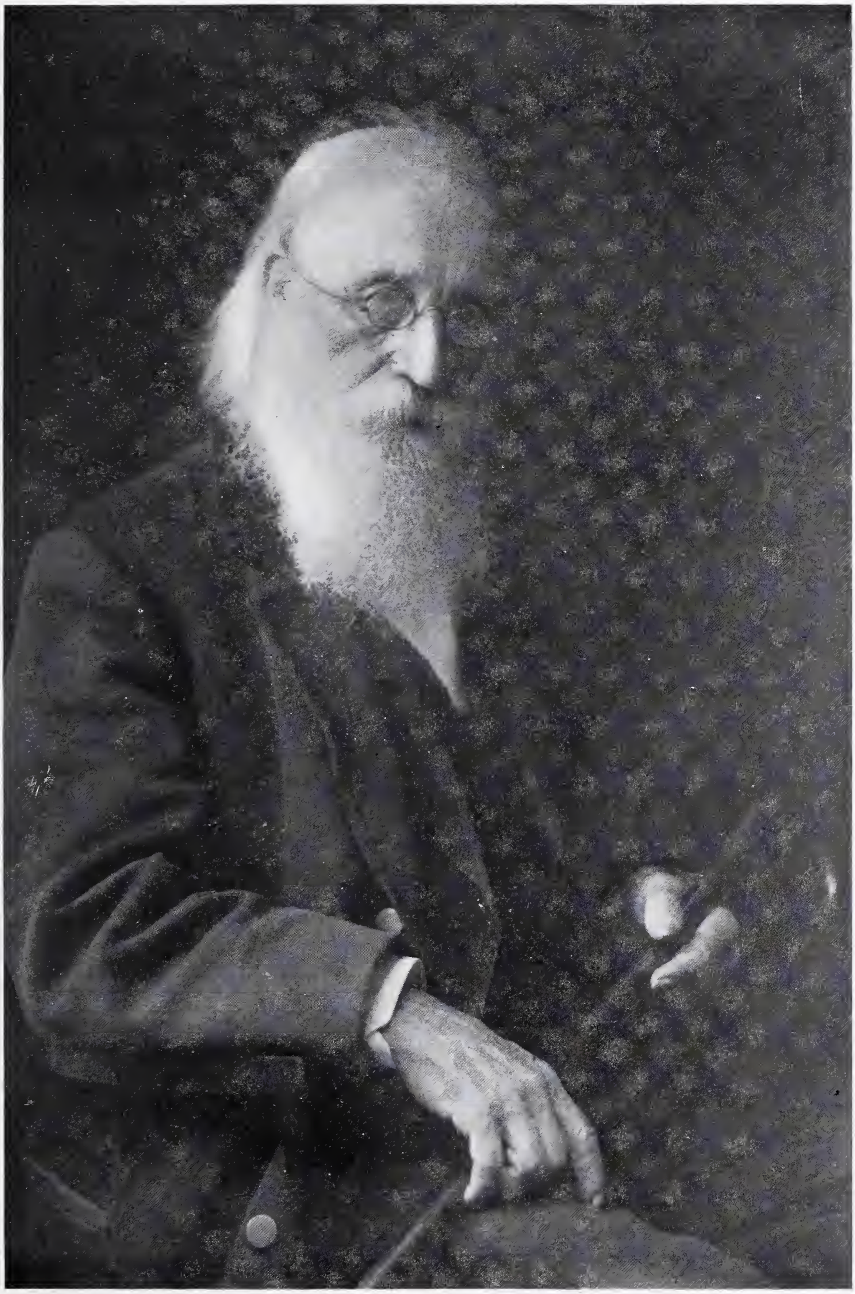


Osprey Just Leaving Nest.

After securing the proper position as regards to light and foliage, and regulating the focus to cover a fair radius about the nest, I have waited hours for the opportunity to make a single snap. The first picture shows the return of the Osprey. On another day, after adjusting the camera while the bird was yet sitting, I was fortunate in securing the exposure as the hawk was about to take its flight again. Both exposures were made on Cramer's fastest Crown plate, with the focal plane exposure.



HEAD STUDY. By L. H. Keller.



PORTRAIT. Charles J. Dampf.

SUNSHINE AND SHADE. W. A. I. Hensler.

THE THIRD CHICAGO SALON.

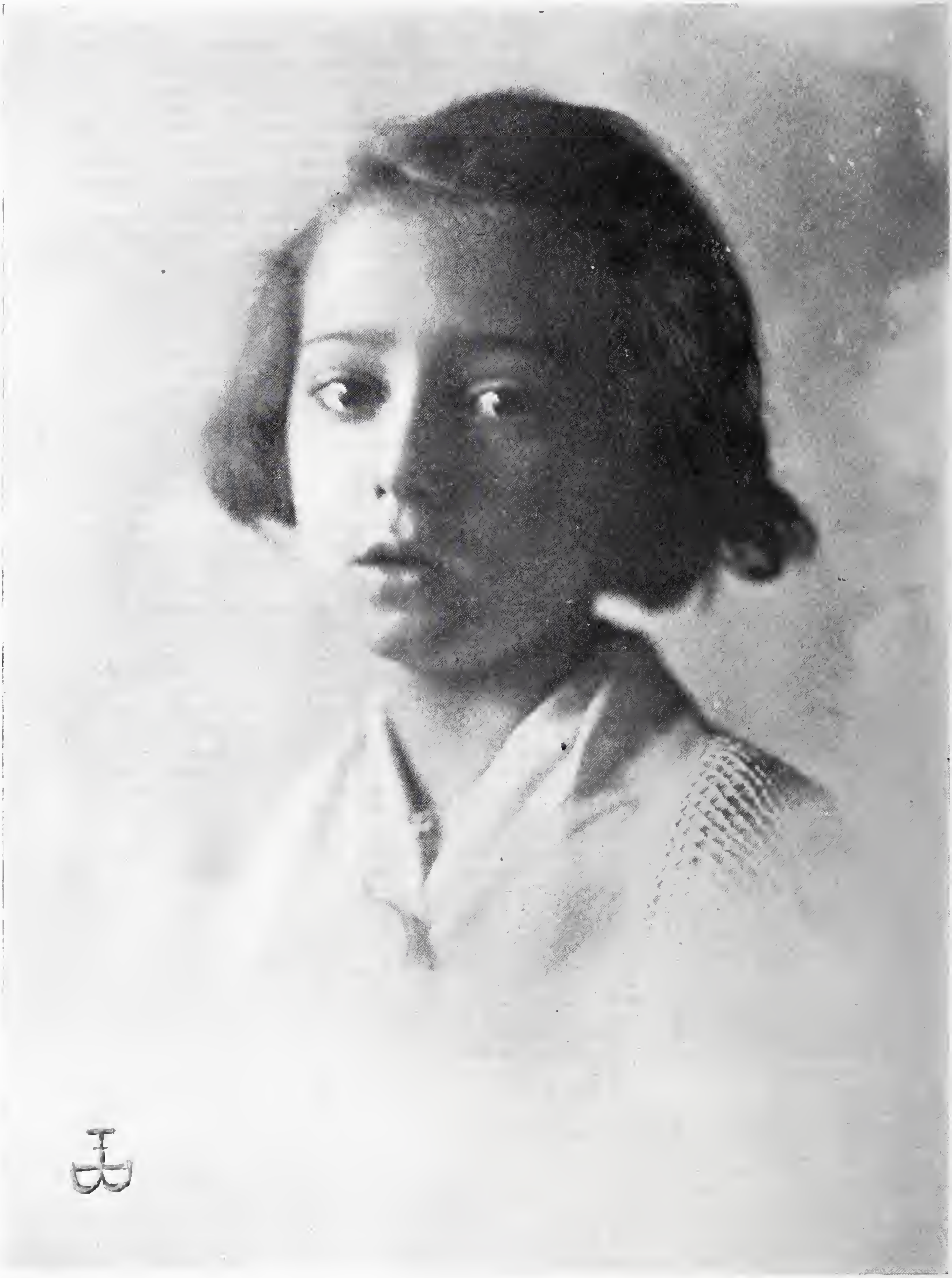
BY CHARLES E. FAIRMAN.

THE third annual exhibition of the Chicago Society of Amateur Photographers, held under the joint auspices of the Art Institute of Chicago and the photographic society, and known as the Third Chicago Salon, has recently closed after a very prosperous salon, and with much credit to the Art Institute, and to the photographers who have joined hands in making this exhibition a success.

It is interesting to a visitor from the East, where there has of late existed somewhat strained relations in photographic matters, to note the conditions existing in Chicago, and to note that in this section of country the photographers and the artists seem to possess the confidence of each other, and that no fear is expressed that if the judging of a collection of pictures, made by photography, is entrusted to artists, that the duties of a jury will be performed in a careless manner; or with a lack of knowledge or appreciation of the present conditions of photographic art.

"AND DAY DRAWETH NEAR." Chicago Salon. 1902. J. W. L. Dillman.

The support given to this exhibition shows that enthusiasm is not lacking in photographic matters in the middle west, as about 1600 frames were submitted, from which 191 were selected for hanging. These frames, suitably arranged, furnished an exhibition fully large for the small space, and also large enough for exhibition purposes, for not even the most ardent enthusiast



HELEN. Chicago Salon, 1902. By Mrs. Jeanne E. Bennett.

can visit such an exhibition and come away with the full knowledge of all the good things exhibited, and so long as all phases of the salon picture are represented in sufficient numbers it naturally follows that the accumulation of more pictures in an exhibition must to some extent tend to lower the standards, or to weaken the exhibition by the mass of pictures that would lack additional features of interest.

I was glad to note that the catalogue did not contain illustrations from the exhibition. Illustrations are at the best somewhat unsatisfactory to the exhibitor, and the subjects used for illustrations are often chosen for their illustrative values rather than for their preeminent artistic merit, and the public is apt to expect that the pictures used in illustrating the catalogue are supposed to be the best in the collection, and at once commence to take issue with the management, and friction is at once raised and the attention diverted from the main thing, the pictures on the walls.

I was also pleased with the simple statement on the title page of the catalogue, "Printed for the Art Institute, Chicago, 1902," a simple statement full of meaning, and as I understand it is meant to convey the idea that the Art Institute has no apology to make for the presence within its walls of an exhibition of photographic art. A position indicative of the change of view that has come to people of progressive minds during the last ten years.

I found the exhibition somewhat different from the salons which have been held in Philadelphia, and that a matter

EVENING SHADES. By Osborne I. Yellott.
Chicago Salon, 1902.

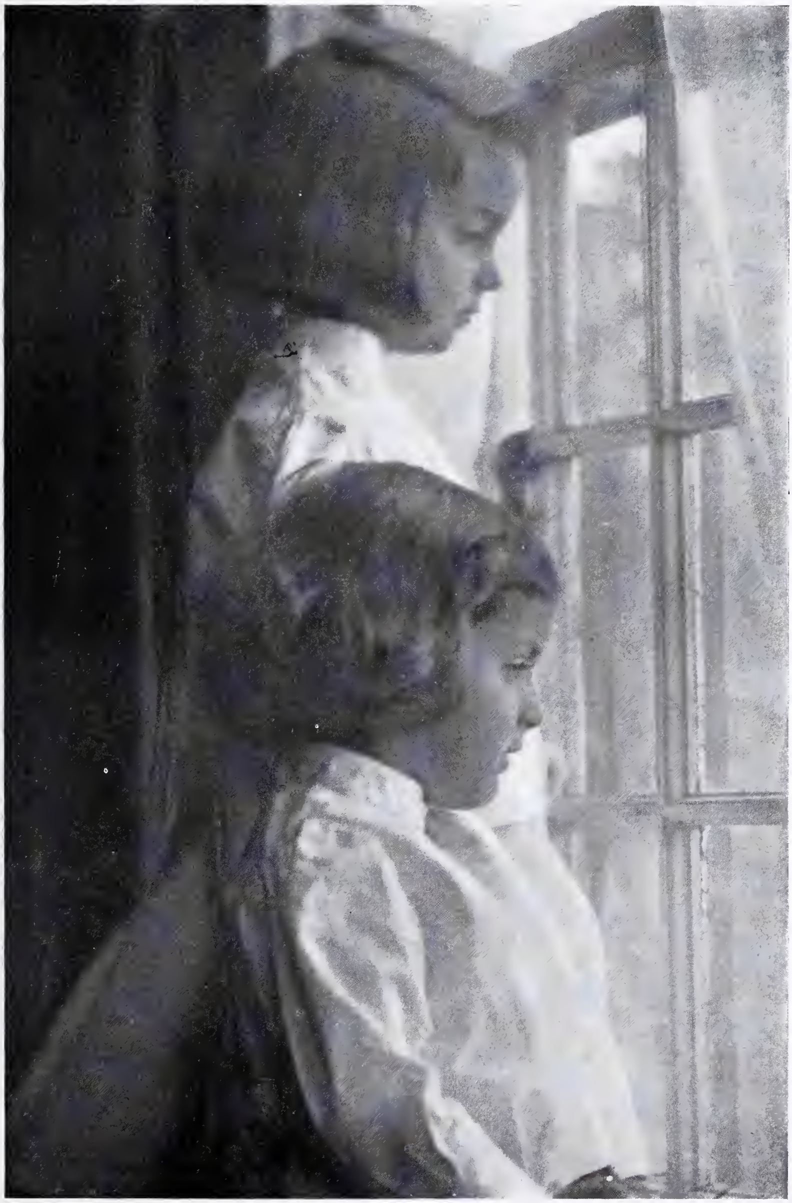
of comparison between the salons of the East and salons of the West would neither be an easy task nor a task that could be performed with fairness to either section. At Philadelphia the presence of more or less foreign work has had a perceptible effect in the formation of the general character of the exhibition. At Chicago, with the exception of some three or four exhibitors from Canada, all of the work exhibited was the work of American exhibitors, and should therefore be accepted as a purely American Salon.

Passing to the consideration of the exhibition as a whole we find that fully one-half of the pictures accepted were landscape studies, that fruit and flower studies were confined to less than a half dozen exhibits, and that of the purely genre studies there were also but few examples; but that the few accepted were works of merit and of value in making the average of the salon high.

Among the many fine landscape studies "April Meadows," by Frances Allen, of Deerfield, Mass., furnished a picture of far more than usual merit. The subject was not of unusual natural beauty, but the presentation was such that many an artist would enjoy, commend, and gain much in its study. The picture presented a simple foreground, broken by a tiny brook, with a very plain bridge crossing the stream in the middle foreground. An interesting line of trees in the distance relieved what would otherwise be a monotonous space. The trees served to break up the sky into pleasing spaces, and the whole treatment of the picture conveyed that feeling of the early spring when a few more days, with their showers and the warm sun, would clothe the trees with the tiny leaves, and change the browns of the fields to the delicate greens.

THE WOODSMEN. Chicago Salon, 1902. By S. Hudson Chapman.

In the "Ice Bound River," by F.



THE ORGAN MAN.

Chicago Salon, 1902.

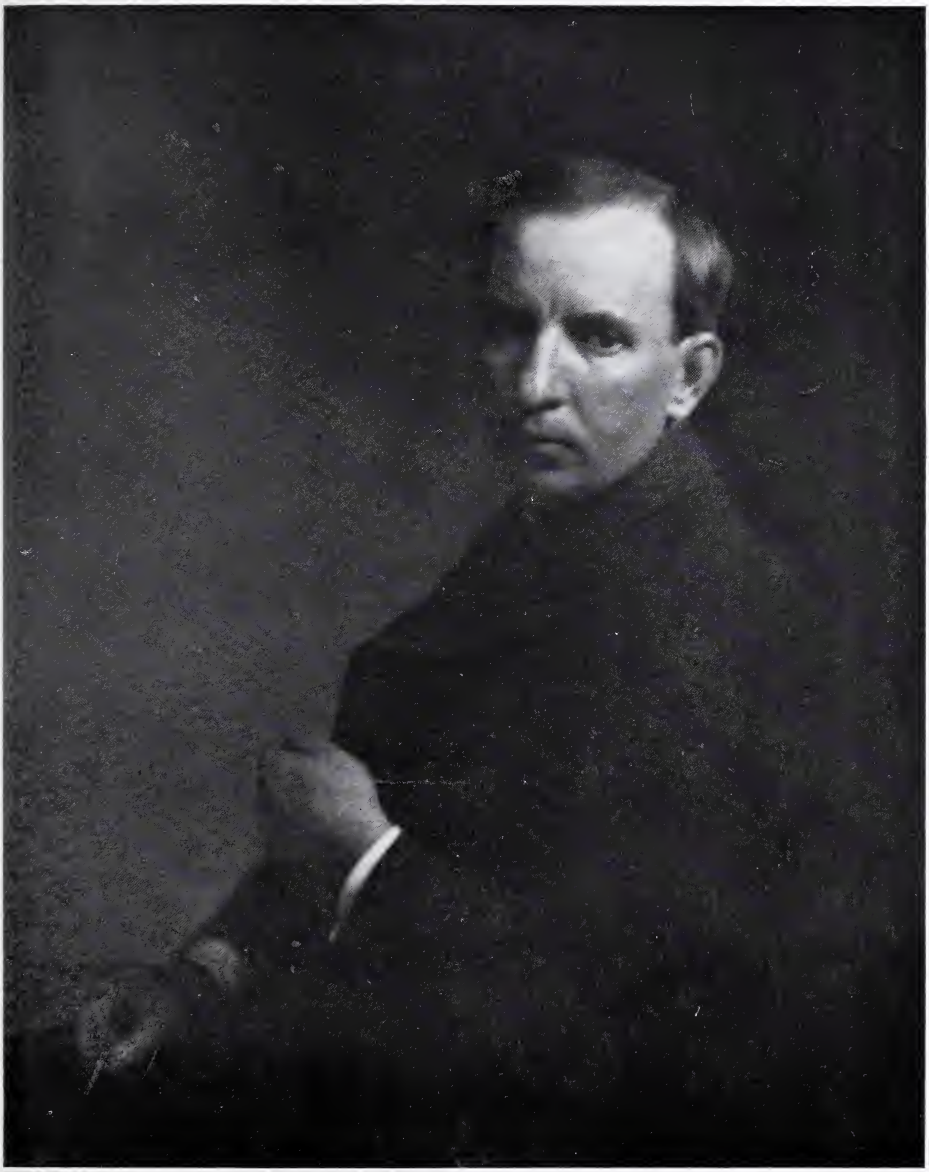
By Virginia G. Sharp.

Detlefsen, of Chicago, gave a fine illustration of broad, somewhat poster-like, effect of treating a landscape so that by clever arrangement in the placing of a large tree in just the right place, an advantage in perspective is gained that adds a great charm to the picture, and produces the effect of a vigorous drawing in black and white.

THE APPROACHING STORM. Chicago Salon, 1902. Robt. E. Weeks.

E. M. Blaine, of Chicago, in his picture "A Rift in the Clouds," secured an effect of great carrying power—a picture that could readily be seen from the furthermost parts of the exhibition room. The picture was that of an old fashioned windmill, such as might well have belonged to some foreign country, boldly outlined against a sky which furnished an apt title to the theme The distribution of the foreground, and the fact that in this picture the interest is so strongly centered made this picture one of the striking exhibits accepted.

Wm. B. Dyer, of Chicago, exhibited eight pictures, and of such uniform ex-



PORTRAIT. By Solon L. Gates.

Chicago Salon, 1902.

cellence that it was somewhat difficult to select the best example of his work. His "Friends," a group of girls, showed an interesting arrangement of his models and so unconsciously posed that one readily loses all thought of associating this work with the camera. His "Portrait of Charles Francis Browne" was one of the notable portraits in the exhibition. A portrait in which a strong and pleasing likeness of Mr. Browne, combined with an unconventional pose, and skillful treatment resulted in a picture of high pictorial merit.

The work of Alice Boughton did not have the same pleasing effect as the work of this same artist shown at Philadelphia, at the salon of 1901. It may be that this was due to the fact of over expectation, and it may be due to some difference in the prints, for some of the subjects were the same as those shown at Philadelphia. Her "Mother and Daughter," and "Beatrice," were pictures containing great tenderness, and a deep artistic feeling. Her nude studies are less pleasing and seemingly a little beyond her present powers to interpret in a wholly satisfactory manner. Her ability is beyond question, and her courage will, without doubt, give her the ability to bring all of her nude studies up to the same key with her "Eurydice Returning to Hades."

I. P. Hodgins, from Toronto, furnished a very attractive picture, entitled "The Duet," a picture of two little misses, seated on a wide sofa, holding in their laps large singing books from which they are singing. The pose is so admirable, the expressions of the two children so very natural, that the picture at once placed every one in a good humor, and became one of the favorite child studies of the exhibition.

Sarah J. Eddy, of Bristol Ferry, R. I., in her "Mother and Child," showed her artistic use of the camera in picture making, and handled the subject with such rare skill that the picture seemed like a delicate wash drawing, with that lack of suppression of detail that one finds which can be secured with the brush, but with the camera seems impossible.

One of the most interesting marines in the salon, was "Idly Drifting," by Walter A. Scott, of San Francisco. While the sky was rather white, the boat and water were so sketchily treated one had the feeling that the artist could have readily furnished a sky of equal beauty, had he considered the sky a matter of sufficient moment.

Virginia G. Sharp, of Roxbury, Mass., had three pictures accepted, all of which were studies of children. In the treatment of draperies, with a transparent quality, Mrs. Sharp has shown marked ability, and her subjects possess such charms of themselves, that her work has great popular interest.

C. Yarnall Abbott, of Philadelphia, exhibited five pictures, all worthy of careful study. "The Darker Drink," exhibited at the London Salon, and at the "Photo-Secessionist" exhibition in New York, is somewhat remindful of the work of F. Holland Day, in its mystical meaning, and is one of those pictures which cannot be appreciated at the first glance, but rather appeals to you by its fine tonality and its subjective beauty.

Virginia M. Prall, a Washington exhibitor, has reached a high plane of decorative art in her "Gloria in Excelsis," a study of great strength. The female model seems just ready to commence the triumphant song, and as a subject for a mural decoration few pictures in this exhibition furnished more appropriate themes, than this full length figure with flowing draperies, with a pose suggesting good action and fine religious sentiment.

Osborne I. Yellott was well represented with a collection of bromide enlargements. His work, in all instances, showed careful thought in treatment, and a full appreciation of the pictorial elements of a successful picture.

Arthur Wilde, of Germantown, Pa., in his "Art Student," exhibited one of the strong genre pictures of the salon. The composition resembled the hasty sketch of a crayon artist, and its simple lines, and the effective rich tones of the gum print, made this picture an apt illustration of the possibilities of photography.

Henry Troth, of Philadelphia, exhibited two pictures, "On Maine Waters," and "A Break in the Dunes." His work as compared with examples seen in other exhibitions, seemed less interesting in the subjects selected.

S. L. Willard, of Chicago, was one of the largest exhibitors at the salon. Of all his pictures the "Lotus Eater," by its decorative scheme, and its few simple lines, seemed the best of his efforts. In his landscape work he manifested much artistic feeling, but his individuality was less marked than in the "Lotus Eater."

J. W. L. Dillman, of Washington, D. C., exhibited a pleasing picture, with well spaced foreground, and a pleasing sky. One of the quiet bits of nature, entitled "And Day Draweth Near."

S. Stockton Horner, of Concordsville, Pa., in his picture. entitled "What o'Clock Is It?" furnishes us with a new version of a much pictured story, a young girl, with the dandelion stalk, engaged in blowing the tiny feathery seeds. The picture was treated very delicately, as if the fragile flower needed careful handling, and the size of the mount made this study one of the large spaces on the exhibition walls.

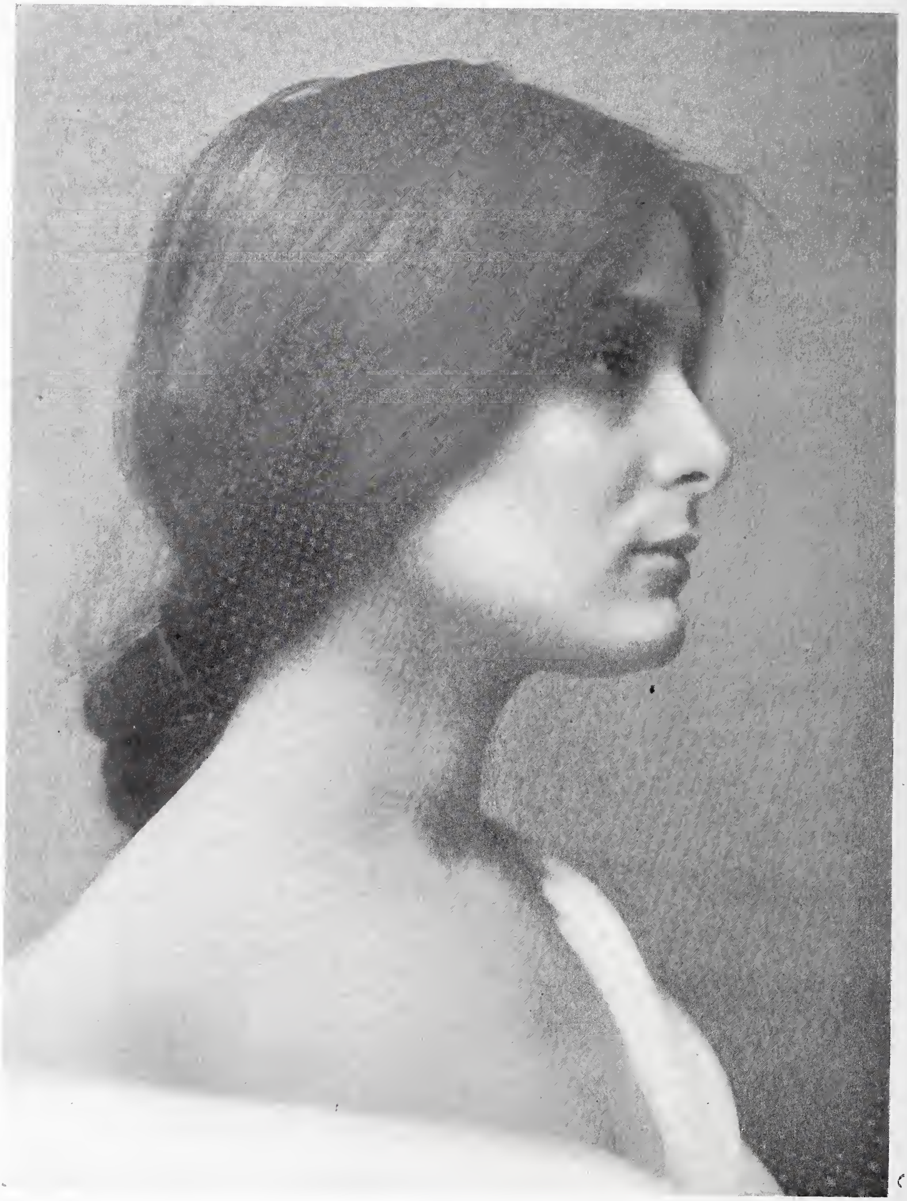
Solon L. Gates, of Chicago, exhibited three portrait studies, serious, well-done in all particulars, and so well composed, and with such an evident desire to present faithful portraits of his subjects, one could almost feel the work was the work of a painter, and an "old master."

"The Woodsmen," a realistic bit of work among woodcutters, and "A Bit of Licate," were exhibited by S. Hudson Chapman, of Philadelphia. Both pictures showed a careful study of the subjects represented, and an ability to present perfect drawing and pleasing tonality in the same picture.

The two pictures exhibited by Mrs. Jeanne E. Bennett, of Baltimore. were examples of fine modelling, and her "Dutch Kitchen" was one of the leading examples of genre work exhibited.

Meredith Janvier, of Baltimore, was represented with two portrait studies which attracted much attention and praise from one of the local art critics.

In addition to the work referred to in this article and which has been far too briefly mentioned, there were many other pictures which it would give pleasure to refer to if space permitted, for the work exhibited was all worthy of commendation, and the faults were so few that they were easily passed over in the admiration of the general excellence and the evident serious purposes of the exhibitors.



ALICIA.

By Geo. Donehower.

SUG-jest-IONS.

BY ABRAHAM BOGARDUS.

IT may not be out of place for an old practical to offer some advice to the young aspiring practical. Behind the camera is a good place to study character and hear whimsical desires. Although the times have changed, yet human nature remains much the same as regards fancy and wishes. The stout lady still wishes to look thinner. If nature has been lavish in her supply it must not appear in her photograph, friends (? ?) might laugh. While it may give an appearance of good health yet stoutness is not, and never will be, popular with the female sex. Then again Miss Slender wishes her cheeks filled out; hollow cheeks are not the style, they do not become the large overcoming hat now worn. The contrast is too great when a thin face looks out from an acre hat. It requires good judgment to please these "demands of the times." I would suggest that in picturing an approach to two hundred pounds (avoirdupois) you should carry your camera well back. A well-known axiom says "distance lends enchantment to the view."

THE CARPENTER. By Lee H. Keller.

Another word of advice, or caution. When a husband standing six feet two, brings a wife whose upright is four foot six, don't seat the lady and stand the hubby (as a group), unless your lens has a double barrel focus. The one figure will top the plate and the other will "fill in" the extreme bottom thereof. It will look as if they do not belong to the same set, and you were trying to separate man and wife, or make a spread. Such posing has been tried, times without number, in the past without success, and would be doubly so, in these days when art is expected to take the place of truth. The critics would say your picture had no "middle distance." One more point to remember, as a writer should not tire his reader, or tell all he knows, or does not know, in one article. When asked to picture a venerable looking lady, evidently on the upper side of eighty, do not allow your retoucher to take out all wrinkles, and evidence of age, by making an egg-shell face. It may please the old lady, but it is better to hover around the truth. Her friends have eyes; they will laugh at you and wink at the vanity of the pleased lady. She would think her friends spoke the truth and meant it, when they told her she did not look a day over fifty in her pictures. Many other peculiarities of peculiar people will come to the surface in the experience of every practical photographer. He needs wisdom, judgment and grit. Conduct the business as wisely as he may, some customers will attempt to impose on his good nature and willingness to please, by expecting resittings until it is decided which tailor-made article of dry goods is the most becoming. Professor Wiseman's formula or Jumbleums developer are of no account in the transaction, and have as little to do with it as the porter's dusting brush. A whim or a freak too often decides acceptance or rejection.

PINHOLE PHOTO. By H. M. Herdie.

CHILD STUDY. The Misses Selby.

ON MISSING THE MARK.

BY H. H. WILLIAMS.

I HAVE more than once written about the utter aimlessness of the ordinary "Press the-buttonists'" pictures. I say "ordinary," because there are some, who, all honor to them, do work that is really "a thing of beauty," but the rank and file are utterly careless *as well as aimless*. I sometimes wonder why this class of "snap-shotists" do not, by accident, make a picture now and then—they certainly waste enough films and plates.

I often wish when I see a lot of these "pictures" proudly exhibited, that someone could have been at the side of the perpetrators thereof, and had the courage to point out the mistakes they were making. Sometimes, I know, it would have been simply waste of breath; but I have found, now and then, those who were both willing and anxious to learn, and grateful when shown what they were doing that was wrong.

To those who really wish to learn, the postal-photo clubs are most useful; the remarks in the note-books often show us our pet work, in what is to us, often, an entirely new light; it comes near seeing ourselves "as others see us."

I well remember the fate of one of my pet pictures; technically, it was good; *but*—there were two trees in the foreground growing out of nothing. I "got it" about those trees, and since then have never made the mistake that trees can exist without visible support. When I made the exposure, I saw the Prebend's Bridge and Durham Cathedral, but I never noticed that I cut off the base of those two trees. That was carelessness, pure and simple; and that is nearly as bad as aimlessness; we don't stop to think how little will often make or mar a picture.

I have a little snap-shot of a crowd round a church door; the end of the church is dark brick, and most of the men have dark coats; but three or four girls in white dresses, with a brilliant cross-light on them, brighten up and seem to illuminate the whole picture. It gives a true idea of what the day was—bright sunshine and deep shadows; and yet, from careful, slow development, the lights are soft and the shadows transparent. The success of that little picture was owing to five minutes' studying the lighting ere the "snap" was made.

While writing this I was called off to look at some thirty 4 x 5 and 5 x 7 that a friend had made while on a camping trip in the Blue Ridge Mountains.

Round him where pictures galore—mountains, log-cabins, children, etc. Not one in the lot shows any sign of artistic feeling or careful arrangement. The groups are in straight lines against fence or cabin, and the cabins, without foreground or proper lighting. Some of the negatives show how little was needed to make a pleasing picture; but I don't think the man knew what "pictures" meant.

I do not think he meant to be aimless; he simply did not realize that each one should have a few minutes' thought. If he had only had six plates with him, he would most probably have studied each subject. There is nothing that the old and (to many) trite saying "that what is worth doing is worth doing well," applies to more strongly than to amateur photography.

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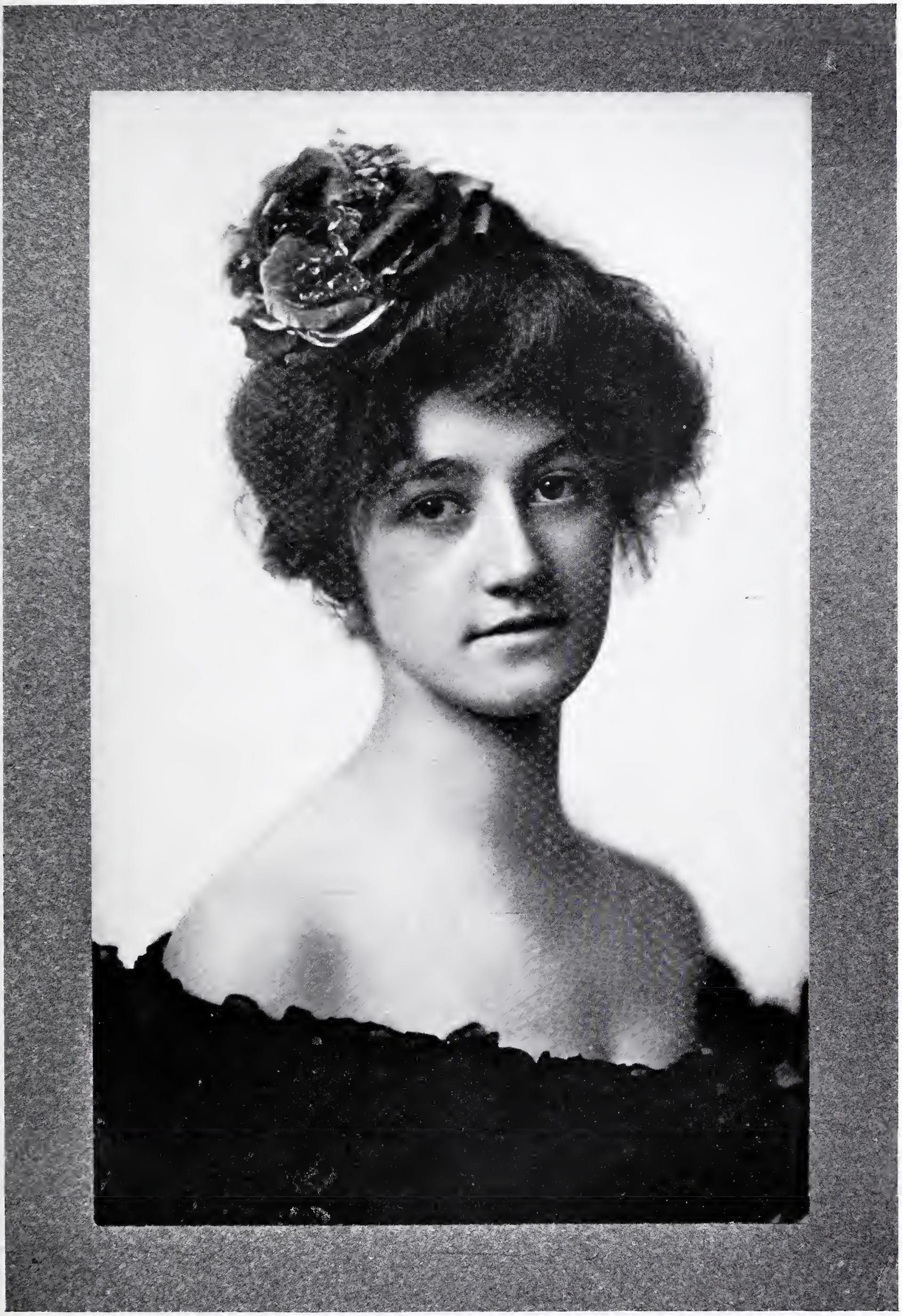
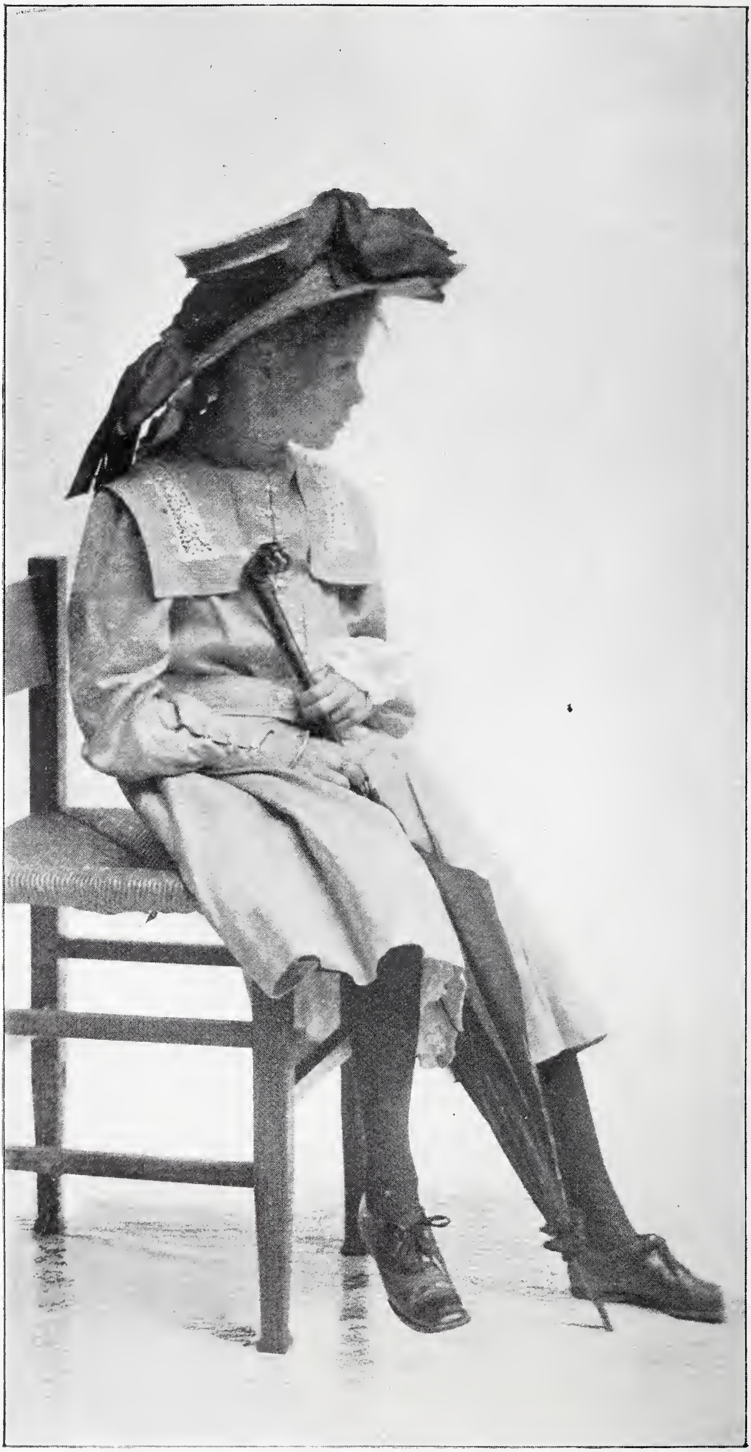


PORTRAIT. By Don C. Scott.



PORTRAIT. By J. C. Strauss.

HOW TO MAKE VERY GREAT ECONOMY WITH WATER IN THE WASHING OF NEGATIVES AND PHOTOGRAPHIC PROOFS.

BY PROFESSOR STEBBING, OF PARIS.

A VERY few years ago I paid about three hundred dollars for the water tax on my photographic establishment in Paris. At the present time I spend only twenty dollars. This is how it was thought of and accomplished.

Sitting one evening at a café, on the Boulevard de Paris, I filled up my glass with water, put the spoon across the top, thus forming a kind of bridge. I then put some pieces of loaf sugar upon the spoon. By hazard, the glass was between my eye and a powerful electric light, some way down the boulevard. My attention was drawn to the play of the light upon the curves formed by the dissolving sugar descending to the bottom of the glass. I have seen this physical phenomena many thousand times without paying the attention which it was worthy. In a contemplating mood, I observed that the sugar dissolved rapidly; that the syrup passed through the water without leaving any trace, etc. I then put this query to myself: "Could not photography gain something?" "Certainly; the long abused hyposulphite of soda could be eliminated," was the answer.

Some weeks passed away in making experiments on a small scale; they succeeded so well, that at last I rigged up an apparatus which has worked admirably for the last two years. For the benefit of the readers of THE PHOTOGRAPHIC TIMES-BULLETIN, I will endeavor to describe it in full: The common size of plate used by me is 6½ x 8½. I ordered a zinc box, with twelve grooves 1 inch apart; the box, 6 inches high and 8½ inches wide and 12 inches long; no bottom. The zinc forming the sides of the box is turned inward on each side about half an inch—this supports the plates. When the negatives to be washed are put into this box, it will be seen that they rise half an inch above the box—this is for convenience in removing them. Then place this box in a tank three times the height of the plates to be washed. In this case, the tank would be about 20 inches deep, 14 inches long, and 10 inches wide. Two bars are placed across the tank 7 inches from the top,—these are to support the zinc box containing the plates to be washed. When the zinc box is in its place, and the tank is filled with water, the top of the plates will be half an inch under water. If newly fixed negatives be left a few hours in this apparatus, no hyposulphite will be left in them; all the hypo will be at the bottom of the tank in the same manner as the syrup of sugar on the bottom of the glass of water. I have had a small lead pipe soldered to the bottom of the tank, and brought it up to within a quarter of an inch of the surface; this draws off all water from the bottom impregnated with hypo and other soluble products.

For eliminating hyposulphite of soda from albumenized and other positive paper, I have a tank 20 inches wide, 3 feet long, and 3 feet deep, with a lead pipe, as in the former one. About 12 or 14 inches from the top two bars are fixed; upon these bars are laid, one upon the other, a certain number of wooden frames made 1 inch square. Holes are perforated all round, at a given distance, and India rubber (like twine for making nets) is passed from hole to hole, and a network is thus formed upon which the proofs are laid. When one frame is full, it is placed in the tank of water, another frame is placed upon it, and so on until all the proofs are in the water. A tap is turned on; a quart of water per hour is sufficient to draw the hyposulphite out of hundreds of proofs. The tank never requires to be emptied, the water is always fresh.

MINEUR. A. Tauxe.

Royal Society, London, 1902.

IRIS. By John M. Whitehead.

A PLEA FOR THE STEREOSCOPE.

BY SAMUEL MERRILL.

PEOPLE with memories, running back twenty-five or thirty years, often express wonder that the once popular stereoscope has been so relegated to the background A generation ago the instrument, with a few dozen pictures, was seen in almost every house; now, if it is seen at all, it is generally a left-over instrument, and held in low repute, the pictures being mostly faded specimens of wet-plate photography. Why is this?

I suggest the following reasons: The photographer a generation ago aimed his stereo-camera at anything and everything, without regard to whether it was adapted for a stereo-picture or not; the photographer, at that time, was always a professional, and expected to sell more pictures according as he offered more subjects and in greater variety; when the amateur came on the scene, he demurred at paying the price for the special outfit which was deemed necessary to make stereoscopic pictures, and this fact, together with the presence on the market of so many stereographs of indifferent quality, left that branch of the art a victim of neglect.

A stereo-photograph, or stereograph, requires two negatives, the centers of which, at the time of exposure, are about three inches apart (being aproximately the distance between the eyes). The prints are transposed in mounting. The slight difference in the view-point, when the picture is seen through the stereoscopic lenses, gives what is called "binocular vision," and the picture has a depth that cannot be obtained in a single photograph, the nearer objects standing out in bold relief. Look across the room and notice how flat the visual image is when one eye is closed. That is the single photograph. With both eyes open, the effect is the same as in the case of the stereo-photograph

Stereoscopic effects are best produced pictorially, in the case of near objects. An interior, a child lying in a hammock, or specimens of still-life, are good subjects; or a landscape, provided there are prominent objects in the foreground to give depth to the picture.

It is not necessary to have a stereoscopic camera, with a pair of lenses and double shutter, except to photograph moving objects. The accompanying stereograph, showing the head of a Canada lynx, was made with a Darlot lens, on two 5 x 7 plates. Cut it out, and place it in a stereoscope, and notice how much more is seen than the naked eye sees when looking at one of the prints. The head stands out in distinct relief in the stereoscope, and the distance from the animal's ears to the canvas in the background can be approximately measured.

I have made a number of stereographs with an ordinary 4 x 5 hand-camera, and with uniform success. It is only necessary that the object photographed be stationary, and not too far away. Two plates, given equal exposure, the camera being moved three inches to one side before the second one is exposed, will give the proper stereo effect. It is necessary to remember, however, that stereo-pictures are limited to three inches in width and three and a quarter inches in height. If a single lens is used for a landscape, and there are trees in the foreground, the result will be unsatisfactory on a windy day.

Of course, the regular stereo-camera is more convenient. It may be used either for sterescopic effects, or, by use of a cap for one of the lenses, single exposures. 3¼ x 3¼ inches, may be made. Films are more convenient than plates when many prints are required, for the films may be cut apart and transposed before printing, making the double print on the same paper.

The stereo-photograph has lost much of its commercial value, but none of its artistic possibilities. The amateur will have little competition in this field, and, with his patience and skill, may produce results vastly superior to most of the professional work now or formerly on the market. It is an engrossing field for experiment, and has been too much neglected by those who make pictures for the love of the work.

AUTUMN HAZE. W. T. Greatbatch.

"THE ART IN PHOTOGRAPHY."

Two Ways of Looking at Nature.

To the Editor of THE PHOTOGRAPHIC TIMES-BULLETIN—*Sir:* On reading the admirable address on "The Art in Photography," by Mr. W. I. Lincoln Adams, delivered before the Montclair Camera Club, and printed in your January number, it has occurred to me that it might possibly be of interest to some of your readers to consider a few of the ways in which the artist-painter looks at outdoor Nature.

I knew in London, some years ago, two art students, who had been for several years pupils of Ruskin, who told me about their experience with him. Ruskin's system was to keep his pupils at work for six months on a single leaf of a tree, drawing it from every point of view until they had learned by heart every vein and every little minutia of form. Then followed six months on a twig; a similar time on a branch of a tree; then came the trunk, and finally the whole tree. From minute detail to masses—putting the cart before the horse, as it were.

Ruskin as a word-painter was a master; but as a critic of the language of the artist—the painted canvas—he receives very little consideration from the artist fraternity.

In blowing Turner's horn he denied the right of any contemporary landscapist to perform tunes on that useful instrument. Constable, equally great, and in some respects more forceful than Turner—less poetical, perhaps, but more virile and objective—Constable, whom France claims to be the founder of its greatest period of landscape art, is totally ignored by Ruskin; nor had Gainsborough, Wilson, and other splendid landscapists of that same period, any existence in his mind. However, to return to our subject.

There is another way of studying Nature and endeavoring to extract its artistic truths—by standing on one's head and elevating the heels perpendicularly in the air, reversing the usual order of things. By this method the brain becomes infused with blood; the mind, consequently, is impressed through the visional organs that all Nature is blue with violet, red and yellow streaks shooting spasmodically through the prevailing hue. On this being reproduced on canvas, we have an excellent example of what is called the Impressionistic School. The artist, however, who views outdoor Nature from the ordinary standpoint—two feet on the ground, and who is the possessor of normal common sense and artistic mentality—on glancing around the surrounding landscape, is impressed first with the general effect in a given space within the limit of vision. This space has in it the elements of a picture. It appears to him as a broad mass of form, a composition of light and shade and color.

Details are subordinated in the general effect—in fact, it cannot be seen at all without an effort of the will to concentrate on small parts of the view. He does not see a leaf or a blade of glass—even a large tree is only a part of the general mass: the composition as a whole.

In reproducing or interpreting this scene on canvas, some maintain the spontaneous impression, giving only sufficient detail to give character and interest to aid in telling the story. The poetical phase—pictures of this kind generally occupy the first rank; others exert their reason; suppress more or less the emotional, and speak more in prose, and, perhaps, excellently well. But the great landscapists are always broad and simple, and use detail in a subjective and suggestive rather than objective manner. For instance, the works of the late George Inness, Wyant and Homer Martin are examples. The Ruskin idea of Nature is like that of the photographic lens—the leaf before the tree; the subordination of the grandeur of Nature to littleness.

Astronomers have proved that the camera lens will reproduce on the negative, forms which the strongest telescope will not divulge to the human eye. A microscope will not produce works of art · it belongs to science. Now it seems to me that, if the amateur photographer will go to Nature and allow himself to be governed by the same principle that governs the artist in looking at it, he will eventually find a way of controlling the desire of the lens to go into minutia, and to give an absolutely mechanical reproduction of Nature without the essence—the atmospheric quality. To a certain extent, it is true the operator will always be the slave of his lens, but he can in many ways learn by experience to control it and bend it to the desire of his will; which desire would control the various processes that folllow in producing the prints.

As the amateur gets more into the spirit of Nature and understands its bigness, harmony and simplicity, so will he approach nearer to the attainment of a higher artistic standard. The enormous progress made by the amateur photographers makes one think of the possibility of a still more advanced standard to be attained.

A work of art represents objectively a product of the human imagination. Photography, can never, in this sense, be a creative art. But, when governed by trained taste and feeling in this special field, it may approach a point of artistic effort, which might properly place it within the realms of Art.

I agree with Mr. Adams in his statement, that a good photograph is preferable to a bad painting. The lens of the camera can sometimes excel the product of a lens with gray matter behind it.

Sincerely yours,
J. SCOTT HARTLEY.

Studio, 145 West Fifty-fifth Street,
New York City.

* * *

MR. ADAMS CONTINUES THE DISCUSSION.

Editor of THE PHOTOGRAPHIC TIMES-BULLETIN :

Dear Sir—I thank you for the opportunity you have given me of reading Mr. Hartley's very able article which refers to my address on "The Art in Photography," printed in your January number ; for Mr. Hartley writes from the standpoint of the artist and intelligent observer of Nature, uninfluenced by experience of the way in which the photographic lens sees Nature and depicts it on the sensitized plate.

From what Mr. Hartley says of Ruskin's method of teaching drawing in his letter to you printed recently, I should say that Ruskin would have made a better photographer than he was an artist ; for his was the photographic method of an earlier day. But is not Ruskin now generally recognized by the best authorities as great in character and as a moral teacher, eminent as a philosophic writer and composer of beautiful descriptive prose, but absolutely unreliable as an art critic?

Now the Impressionist of the present, and more especially of a little earlier time, by emphasizing what they saw in Nature—the predominance of blue over other colors—went to the extreme farthest removed from the so-called "Hudson River" School, who emphasized the browns of Nature and painted in more detail with usually less atmosphere—the Impressionist produced paintings full of atmosphere, but often grotesque in color and treatment, one-sided representations, which were rather caricatures of Nature. Such painting the late George Inness characterized as "Blue Hell."

But we must admit that the Impressionists by their extreme radicalism have influenced for the better modern landscape painting, and, as a result, we have to-day in this country a school of landscape painters who are doing the best work at present being done anywhere in the world. The senior Inness may be considered the founder and the father, as he was pre-eminently the leader of this great school of modern American landscape painters.

The "New School" of Photography, which I referred to in my paper, bears a relation to the older, more conservative photographic workers similar to that which the Impressionists bore to the Hudson River School ; only the photographic radicals are influenced by the extremes of Impressionism alone ! They are, therefore, naturally more one-sided and narrow than either of the other schools, and the result of their theories in practice are the "freak" photographs and "fuzzy types," as they have rather aptly been called, which are neither art nor photography—"fish, fowl or good red herring !"

But the new school of photography has also influenced the older methods beneficially, just as the Impressionists influenced for the better the earlier painters, and what we hope for, as an outcome in future photographic work, is a sensible middle course, embodying the truth of each extreme, but avoiding the *extremities* of each !

Very truly yours,
W. I. LINCOLN ADAMS.

WATER-DEVELOPED PLATINOTYPE PRINTS.

BY CLARENCE PONTING.

CONSIDERING the number of methods there are of "artistic expression" in the photographic papers, such as carbon, platinotype, bromide papers, etc., it seems peculiar that, should a new process make its appearance, it is usually tried by photographers, in the hope that it may help them to reach their ideal in the "black" art.

Plantinotype has a host of devotees, who worship at its shrine, and who rightly swear that it is one of the best mediums for individual expression. For it can be not only developed in the ordinary way, which will produce a beautiful steel-gray tone, but also, by adding a few drops of a saturated solution of mercuric bichloride to the developer, various shades of very pleasing sepias and browns are obtained. Then there is the glycerine mode of development, very much in favor by some of our best workers.

There is also another method of developing platinotypes known only to a few, and which suits only very few negatives. This method is simply developing the print in ordinary water. It is above stated that it suits only a few negatives, and the sort of negative most suitable for it seems to be one tending to flatness, as prints made by this method increase greatly in contrasts. This peculiarity may often be turned to great advantage. In the case of thin negatives it almost amounts to intensification.

By this I mean that a print made by the water method would be very similar to one made from that same negative *if it had been intensified*. It will be seen that it also has its disadvantages, the principal being the time taken to print, and also that it is only a few negatives it is suitable for.

The results obtained are very similar to those produced by the bi-gum process, which will interest readers who are of the "impressionistic" school.

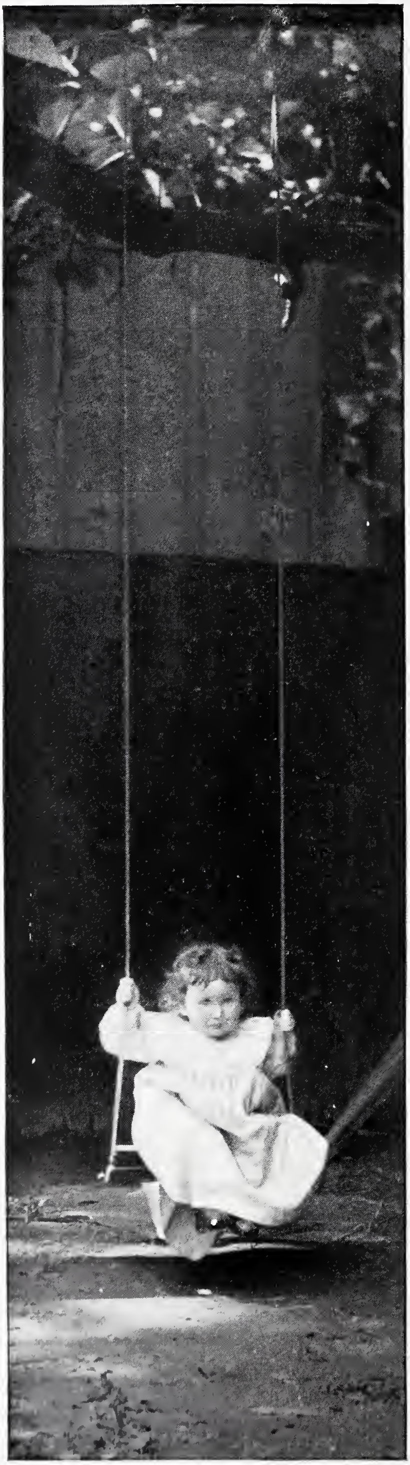
The outline of the process is briefly this: A piece of "platinotype" or "platona" paper is placed under the negative, and put out to print as one usually does, *only*, instead of taking it out of the frame when the stage of the "oxalate development" is reached, it is allowed to go on printing till only the highest lights are *lemon yellow*. The shadows, etc., will have assumed a dirty, unevenly printed appearance.

At this stage the print will look as much like a paper negative as anything, being neither positive nor negative.

It is now taken from the frame and put into a bowl of water, in which it rapidly develops up to a pleasing sepia tone.

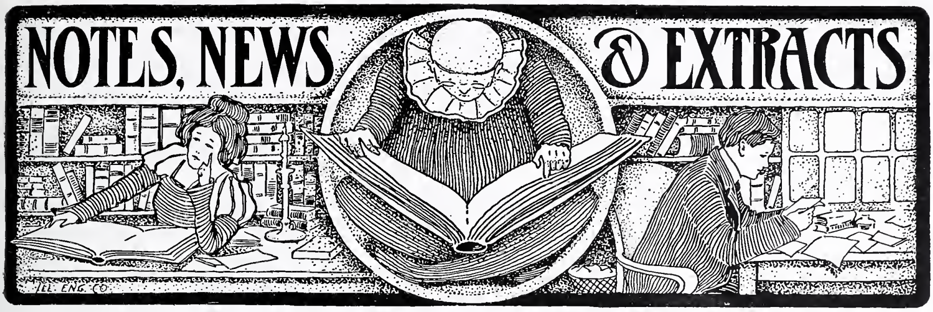
It must next be placed in the three usual acid baths, washed, dried, trimmed and mounted. It will be rather difficult to a worker, who has not tried this method before, to tell the correct stage at which to stop printing. He will probably greatly *underprint* at first, but after trying a print or two will get them right without any difficulty. This method is most suitable for large heads, or any subject which requires broad treatment.

I must again impress on my readers that it is a process for broad subjects, and it is not suitable for pictures less than half-plate.—*Practical Photographer*.



HAPPY CHILDHOOD. By W. P. Bloom.

NOTES, NEWS & EXTRACTS



Mr. E. Starr Sanford has severed his connection with the firm of Davis & Sanford, of 246 Fifth Avenue. Mr. Sanford intends to open a studio in London at an early date.

Marks & Fuller, of Rochester, N. Y., are to continue the business of dealing in photographic goods, which has been conducted for more than forty years by Mr. Henry D. Marks, senior member of the new firm. Mr. Fuller has been associated with Mr. Marks in this business for more than half this time.

THE DIFFERENCE.

A frowning beach, a biting wind,
  Rain dripping clouds, bad weather ;
Yet in my sight, all things were right,
  For we were there—together.

Deep azure skies, the ocean sleeps,
  The air is sweet and mellow ;
But I feel old, and glum, and cold,
  She's with—another fellow !

—*Charles Townsend, in Four-Track News for December.*

Ability Is a Young Man's Best Capital.—If he has fair capacity, and applies himself, he will find that brains are a better "stock in trade" than inherited wealth. Brains have put many a poor boy in the front rank, they have never, unless deliberately misapplied, blocked his career. We cannot all inherit wealthy sires, but we have all fallen heir to some ability which if judiciously utilized, will prove a more valuable asset than a piece of an ancestral estate.—*From the Four-Track News for December.*

Mr. Dooley says:—"We march through life, an' behind us marches th' phottygrafter an' th'rayporther. There are no such thing as private citizens. No matter how private a man may be, no matther how secretly he steals, some day his pitcher will be in th' pa-aper along with Fitzimmons' fightin' face. He can't get away fr'm it. An' I'll say this f'r him, he don't want to." "D'ye think people likes th' newspapers iv th' prisint time?" asked Mr. Hennessy. "D'ye think they're printed f'r fun?" said Mr. Dooley.

Ernest Thompson Seton's plea for detailed records of observations made afield, F. A. Lucas' account of birds' weapons, and Frank M. Chapman's instructions to students as to the best ways to study birds, are the leading articles in *Bird-Lore* (The Macmillan Company) for December. The illustrations include one of Ernest Thompson Seton in his Manitoba camp, the first group in a series of the prominent ornithologists forming Bird-Lore's Advisory Council, and a remarkable view of a colony containing 2,000 Flamingoes' nests.

The communication on "The Art in Photography," by the sculptor, J. Scott Hartley, is well worth a careful perusal by our readers, as it sets forth very clearly and intelligently the artist's way of looking at Nature, and, following the thoughtful paper on the same subject by Mr. W. I. Lincoln Adams, is of additional value and interest. Mr. Hartley will be remembered by our readers as the sculptor who designed the Daguerre memorial monument to commemorate the semi-centennial of the discovery of photography. The monument now occupies an honored place in the Smithsonian Institute, in Washington, D. C.

We note from a copy of the *British Journal of Photography*, published December 12th, 1902, that the "Trust" in England is making cut films. They apparently are attempting to create the impression that the idea of using them with cardboard, to fill up the space in the plate holder, is new, whereas years ago in this country cut films were used in ordinary plate holders, with a piece of cardboard at the back.

Subsequently metal film kits were made and the film was slipped into the kit and the kit into the plate holder. Is the "Trust" retrograding and have they come to the end of their ideas so that they are obliged to bring out old things as new?

The First Minneapolis Photographic Salon Announcement.—The Minneapolis Society of Fine Arts announces that under joint management with the Minneapolis Camera Club, the first Minneapolis Photographic Salon will be held in the Art Gallery, Public Library Building, from February 4th to 15th, 1903.

INVITATION.—All persons interested in pictorial photography as a means and medium of artistic expression or interpretation of Truth, Beauty, Emotion, Sentiment, or Ideality, are cordially invited to submit works for the judgment of the Jury of Selection.

THE MINNEAPOLIS SOCIETY OF FINE ARTS,
THE MINNEAPOLIS CAMERA CLUB.

Rubber Tubing.—It is a matter of common observation that rubber goods keep in good condition while in use, but quickly spoil when put away. Lanternists, for instance, find little fault with their gas tubing during the season, but are horrified at the ravages made upon it by time in the summer. Good tubing should be covered with webbing saturated with wax, but is expensive. The next best thing is to soak the tubing (or any rubber article) in warm water about once a month. This prevents the rubber from cracking, and keeps it soft. It should be dried by hanging up on a line or nail. In all cases rubber should be kept in an even temperature of about 60 deg. F.—NEMO.

An American Exile.—"The foremost engraver of the American school," as the distinguished critic, Charles H. Caffin, recently called Timothy Cole in a discussion of American engraving, twenty years ago gave up his home at Bath Beach, L. I., and residence in America, and sailed over seas to the art galleries of Europe, where his work seemed to call him. Wife and children have shared his exile, and home has been wherever was found the picture that appealed to the wood engraver's genius. One son, Alpheus, is a painter in London. Another son is working with the father in Seville. The youngest boy is at school, and the fourth brother is in Brussels studying music, a talent inherited from his gifted father.

The Fourth Annual Salon of the Colorado Camera Club will be held at the club rooms, in the Appel Building, 1230 Sixteenth Street, Denver, Colorado, March 23 to 28, 1903. This will be the first print exhibition given in the new club rooms, which are acknowledged to be the most commodious and best appointed of any camera club quarters in the West, and it is the expectation that the pictures shown in this salon will far excel in artistic merit those exhibited in former years. All photographers are cordially invited to submit pictures for entry in this exhibition. All pictures must be forwarded at owner's risk, carriage prepaid, and delivered not later than March 5, 1903. Return charges must be collected by carrier. Address all communications and pictures to George L. Beam, Secretary Colorado Camera Club, 400 Appel Building, Denver, Colo.

Following in the wake of wood engraving, which trade was ruined by the invention of photo-process blocks, a correspondent informs us the chromo-lithographic art is being slowly but surely ousted by the three-color photo-process. Wages are being persistently reduced, and firms are also pretty generally reducing their staffs. Artists who a few years ago could easily earn £3 to £4 a week can now only get something like £2 to £2 15s. a week with difficulty. The number of artists out of employment at present is unusually great. The three-color process gives as great a variety of tints as does a chromo in seven or eight colors, but the darker colors are less distinct. This defect will, however, probably be soon remedied, while in the meantime the economy of the photo-process is a great inducement to advertisers and others to use it.—*Daily News.*

Photography Through the Telephone.—It may be predicted, with a fair amount of safety, that if seeing by telephone should be rendered possible, it should be possible to photograph by the same agency, hence our readers will be interested to learn that a technical Committee of the French Academy have under examination a new discovery relating to the possibility of seeing, at the receiving end of the telephone, the reflection of persons at the operating end of the service; but it is not possible, the Secretary of the Academy states, to pronounce upon the real value of the discovery at this early stage. The only information available to the public is to the effect that a fresh contribution to the solution of the problem of vision through obstacles has been submitted to the Academy by an inventor whose name would be withheld until after the Committee had reported on the practicability of his invention. The leading idea of the plan is the utilization of the well-known light sensitiveness of selenium in the circuit of the electric current, a problem which, in one form or another, has for many years occupied the attention of a large number of experimenters.

Printing Frame.—One of the greatest difficulties attending the use of films is experienced by the photographer when making prints. The tendency of films to curl and twist causes a great deal of time to be wasted in trying to straighten out the negative and lay the edges back to their normal position. Heretofore it has been the practice to soak the negative in glycerine or bend it backward, but these methods are in the one case disagreeable, and in the other non-effective. All photographers will therefore appreciate any device for overcoming this difficulty.

A very simple invention along this line has recently been patented by Dr. F. J. S. Gilbert, of 1921 Canal Street, New Orleans, La, Dr. Gilbert's invention provides a printing frame having two horizontal wires stretched on the glass along two opposite edges. Each wire is secured in the frame at one end, and at the other is coiled about a revoluble pin. Each pin is provided with a milled head, so that it may be turned to increase the tension of the wire.

In operation the wires are first slackened, and the film placed against the glass with its edges under the wires Now by tightening the wires the film is held smoothly in place. The sensitized paper is next placed, and exposure made in the usual manner. The paper may possibly overlap the wires, but this is not detrimental, for a small margin is always allowed on prints, which is trimmed off before mounting. This printing frame will be found particularly useful for one who desires to make a great many prints from a single negative, for when once fastened in place the film cannot be disturbed by the ordinary operations of printing.—*Scientific American.*

Doubtful Economy.—Every photographer at one time or another has some spoilt bromide paper by him, spoilt through unsuitable storage, light fog, or similar causes, or even exposed and not developed. From a strictly business standpoint, if we were asked how to deal with such paper, we should unhesitatingly say, "Burn it and buy fresh." The time, patience and material that are wasted over trying to utilize in regular work material that has been damaged in any way are out of all proportion to the monetary value of the material rendered usable again, except in a few very rare instances. The apparently wasteful course is the true economy. This rule must not be too strictly applied. There are many photographers who take a keen and intel-tellectual delight in the performance of unfamiliar operations, and are always wandering off the broad road of humdrum photographic practice into the narrow, ofttimes thorny, yet pleasant by-paths of novel or little-used methods. This course is not only a pleasant but a profitable mental exercise, since it helps to an understanding of the underlying principles of photography, without which a photographer can never hope to use its processes intelligently. A case in point is the method devised by Dr. Reiss for restoring such bromide paper as we have referred to. He has shown that if it is soaked in a two per cent. solution of mercuric chloride for fifteen minutes, and is then well washed and dried, prints can be obtained upon it which he claims are even better than those that could have been got on the unspoilt paper, True, the exposure is increased nine hundred times, which would put it out of court for enlarging or even for printing by artificial light, but it is still easy enough by daylight. The process may be recommended to those who like experimenting in that sort of thing.—*Photography.*

The following story has been going the rounds of the American press. It would appear that the Japs are jokers as well as progressive.

CROOKS AND THE X-RAY.

In this ingenious and highly inventive age it is common to hear of financiers gobbling up whole railroad systems, but it remained for the Japs to get ahead of the rest of the world by producing citizens who have been trying to swallow the government mints. The Japs are indeed getting to be pastmasters in the inventive arts. They are an ingenious people, but nobody ever supposed until recently that certain members of their race, who have official positions in the government mints and who have developed a propensity for purloining the coin of the realm would undertake to turn their stomachs into temporary safety vaults for the disposition of the much-coveted yellow metal.

But, mirabile dictu, the Mikado has placed an order, according to reports, with a Philadelphia firm for several X-ray machines to be used in detecting crooked employes of the government mint. It seems that some of these nimble-fingered gentry have been appropriating gold coins and swallowing them to prevent detection. The thing went on for some time and, so serious did the offense become, that the Mikado determined to use the X-ray test on the stomachs of those who were suspected. The experiment proved a distinct success, and hence the order for the additional machines. The plan adopted is to examine suspects as they leave the mint daily, and if any coin of the realm is found snugly quartered in the secret recesses of their internal organs the proprietors thereof are immediately arrested and given "punishment to fit the crime."

Whether the stolen property is recovered from time to time, and if so, by what process, we are not advised, but it is reasonable to infer that Japanese ingenuity is equal to this emergency and has found a way to make the offenders "cough up."

The Sins of Celluloid.—When the introduction of celluloid made the cinematograph a practical success, there were many prognostications of the disasters which must occur from the inflammability of that material. A few such episodes did happen, happily without any grave results, and these could be traced to the imperfect apparatus then in use, or to the foolhardiness, or the ignorance, of inexperienced operators. The London County Council took alarm, and ruled that no machine for exhibiting animated photographs should be employed in any of the halls under their jurisdiction, unless apparatus and operator were shut up in an iron box, where they were completely isolated from the spectators, and where they could frizzle away at their own sweet will. But if all the accidents arising from the inflammability of celluloid could be tabulated, we have no doubt that the majority would prove to be in connection with the use of that material other than as a support for the photographic film. There have been accidents, for example, from celluloid collars catching fire and inflicting terrible burns upon the wearers' necks. And there is no great reason to wonder at this, for tens of thousands of such collars must be in daily use —a silent protest against the destruction wrought in linen by the modern laundress. Combs, and other fancy articles made of celluloid, are responsible for several more accidents, and we have even heard of a billiard ball made of the material catching fire and deflagrating violently, to the utter ruin of the green cloth upon which it rested. But perhaps the most remarkable episode of the kind yet reported is that described by the Paris correspondent of the *Daily Telegraph.* A certain gentleman had, by an unkind turn of fortune, lost his nose, and as he considered that the absence of this very necessary appendage to a complete countenance might excite remark, he hied him to the surgical instrument shop and purchased an artificial olfactory organ. It was supposed to be made of horn, but sophistication enters into the composition of artificial noses as it does into that of most other commercial products, and the thing supplied to him for horn was really celluloid. He did not become aware of this until chancing to light a cigarette, the flame from the match set fire to his newly-acquired nasal organ, and in a moment he was running about with a small volcanic eruption coming from his face. We earnestly trust that the poor fellow was not badly burned, but while we sympathize with him in his misfortune we cannot help feeling glad that the accident was quite unconnected with the use of celluloid in photography. Those who use films of celluloid, either in the flat form or in the roll holder, are, we need hardly point out, running no more risk than if they were handling glass plates, for the necessary care exercised in keeping the material from access of light involves protection from fire as well.

PATENTS.

Photographic Print Washer.—Albert Van Hoorn, Oldham, England.

Photographic Printing Frame.—William G. Wood, San Francisco, Cal.

Camera.—William F. Folmer, New York. Focal plane shutter and focusing mirror.

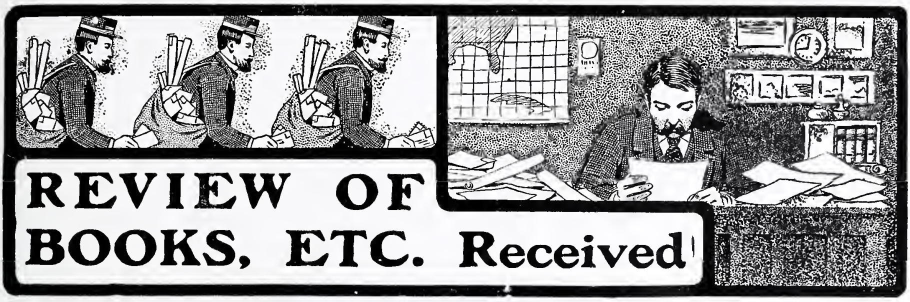
Revolving Photograph Cabinet.—Ernst Bekner and Max Bekner, Paterson, N. J.

Lens.—Carl A. H. Harting, Brunswick, Germany, assigned to Voigtlander und Sohn, Brunswick, Germany.

Camera.—Lodewyk J. R. Holst, Brooklyn, N. Y., assignor of two-thirds to Louis Borsum, Plainfield, N. J., focal plane shutter camera.

Process of Developing Photographic Pictures.—Arthur Eichengrün, Elberfeld, Germany, assignor to Farbenfabriken of Elberfeld Co., N. Y.

Adjusting Mechanism for Camera Fronts.—John A. Robertson and Charles E. Hutchings, Rochester, N. Y., assingors to Rochester Optical and Camera Co.



REVIEW OF BOOKS, ETC. Received

The A B C of Photo=Miccography. By W. H. Walmsley. Published by Tennant and Ward.

A most interesting and instructive work, simply and clearly written. If you do not want to become more than interested in this work let the book alone, if you do ; it will prove a most profitable investment.

The British Journal Almanac for 1903. The B. J. Almanac is like all its predecessors, bulky, but full of good things.

Quite a number of pages are devoted to the illustration and description of new apparatus and affords most interesting reading. Most of us deem the B. J. Almanac a highly necessary addition to our library, and the 1903 book is a most welcome addition.

A new illustration of the growing interest of Italian economists in American problems, and of their increasing appreciation of American scholars, is found in the Italian translation of Professor Ely's "Monopolies and Trusts" (The Macmillan Company), which has just been published in Turin, in the *Biblioteca Dell Enconomista* edited by Prof. Pasquale Jannaccone. The work has been translated by Dr. Paole Conte.

It includes a new introduction by the author, further explaining his ideas of the significance of monopoly price as class price. The original is now in the fifth thousand. The subject with which the work deals was surely never more a live question than to-day.

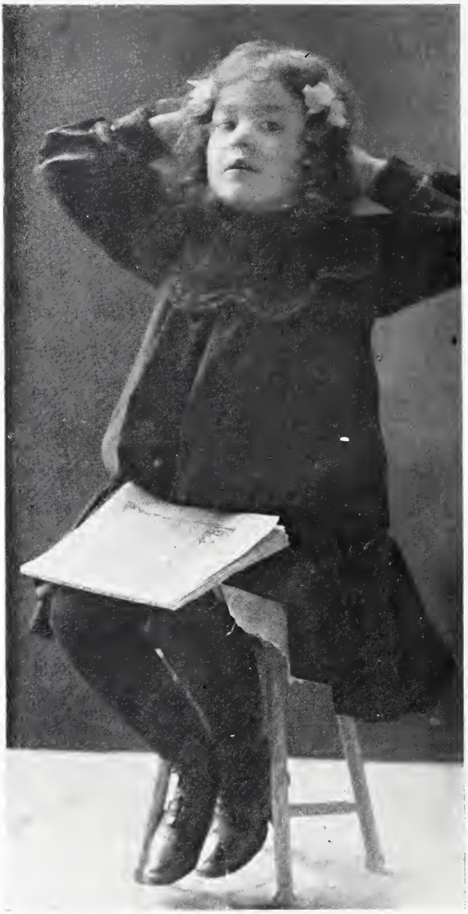
The Photogram (Dawbarn & Ward, Ltd. 3d.) commences a new volume with its January number. Among the topics presented (in most cases with illustration) are ·

Night photography by Ellis Kelsey ; showing the truly pictorial bits to be had with a camera along the white cliffs of Old England on a moonlight night. Half-an-hour's exposure on a rapid plate at $f/6\text{-}5$ is ample to obtain the small amount of detail essential to the moonlight effect.

Photography in the drawing room for ladies sounds ridiculous, but Mrs. Carine Cadby, one of the best known of lady photographers, demonstrates how she arranges a corner in her house for service as a photographic workroom, yet keeps it convertible, within the space of a few seconds, into a cosy corner where afternoon tea may be dispensed without arousing a single suspicion as to the double use of the surroundings. The illustrations show the cosy corner at work in the forenoon and in its afternoon attire.

"Xmas party photography" tells and shows how to extract an evening's amusement from the camera, some old costumes, and magnesium ribbon.

Sensitized Material and Process of Making the Same.—A. H. Mies, Jr., Büdesheim, and A. Coblenz, Bingen, Germany, in order to produce photographs on fabrics the latter are previously treated with an extract of Iceland moss and, when dry, sensitized in the usual manner. This process, however, has the disadvantage that after a time the photographs show spots. To overcome this difficulty, the present process has been invented which consists in impregnating the fabric with a solution of soluble starch, subsequently drying the impregnated fabric to render the starch insoluble and finally giving a sensitized surface to the dry starch impregnated base.



"ANOTHER MONTH UNTIL THE TIMES-BULLETIN COMES."
By Dr. J. W. Anderson.

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WANTED—Lady Retoucher; steady position; one that is willing to attend reception room part of the time. Address, Stamper's Art Gallery, Sonna Block, Boise, Idaho.

WANTED—Retouching by the piece; all work first-class; reasonable rates; expressage paid one way. Address, Retoucher, 9 Hornell Street, Hornellsville, N. Y.

WANTED—An able-bodied Photographer; must be good printer and retoucher. Send specimens of work (unmounted), photo of self, and state salary expected, in the first letter. Invalids requested not to apply. Address, Brock & Koonce, 59 South Main Street, Asheville, N. C.

For Sale.

FOR SALE—A first-class Studio, in San Diego, Cal. Price, reasonable. For particulars address, Box 682, San Diego, Cal.

FOR SALE—Studio in Western New York; population, 22,000; has reputation of doing best work in city; reasons for selling given to parties interested. Address, K, care of THE PHOTOGRAPHIC TIMES-BULLETIN, New York City, N.Y.

FOR SALE OR TRADE—18 x 22 Camera, telescopic bed; 6-foot bellows when fully extended; front half conic shape; lever focus, using front D. S. curtain slide. All in splendid condition; would trade for 7-B Suter, or any good 11 x 14 R. R. lens. Address, Theodore A. Brown, Marshalltown, Iowa.

FOR SALE—A first-class Studio; centrally located in best business block; elevator, electric light, heated with hot water, fitted up to 11 x 14 in., both portrait and view, with Dallmeyer lens. Awarded first premium on portraits at Idaho State Fair, October, 1902—also in previous years; the oldest and best established, largest and most conveniently arranged gallery in Idaho, doing at present $450.00 per month, and $2,000 00 takes everything. Visit with us a month and be convinced that this is the best bargain in the West. Address Stamper's Art Gallery, Sonna Block, Boise, Idaho.

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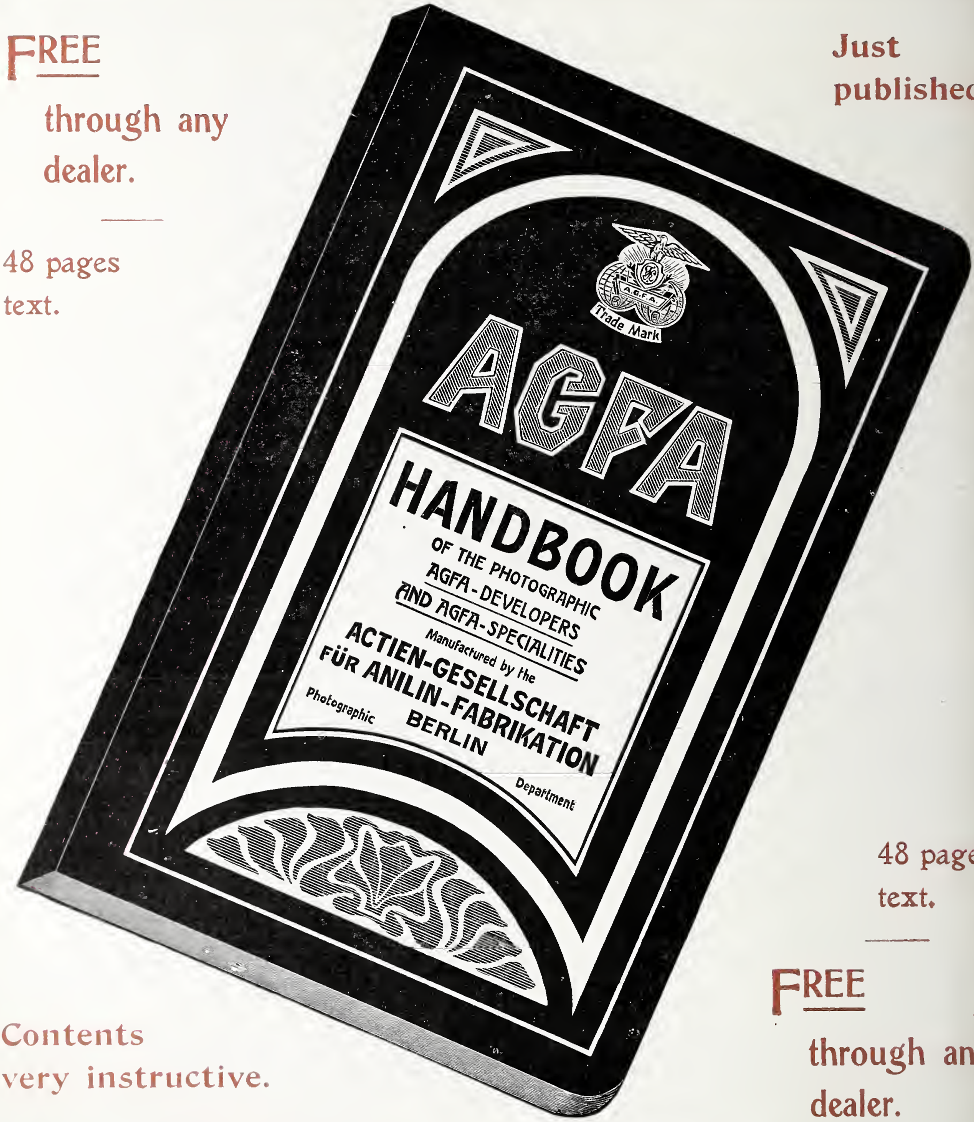

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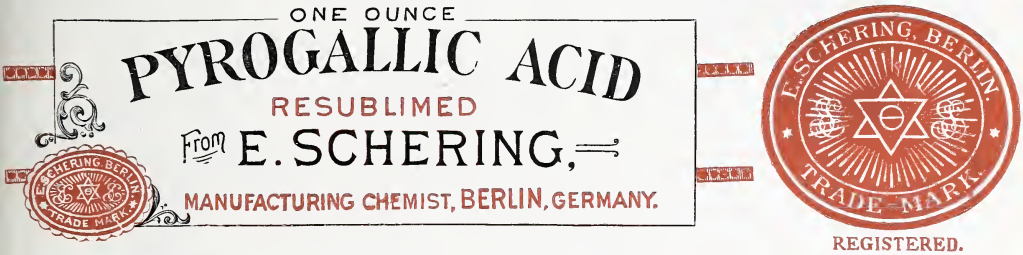

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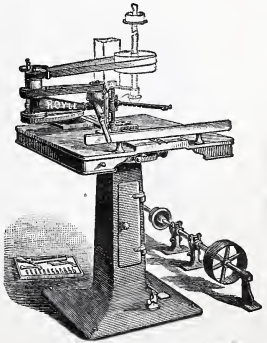

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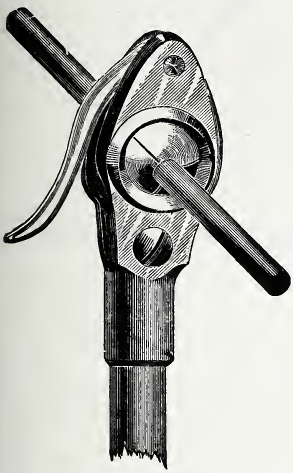

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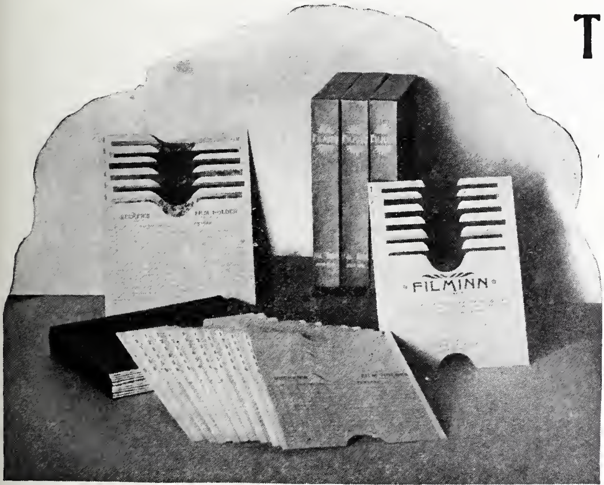

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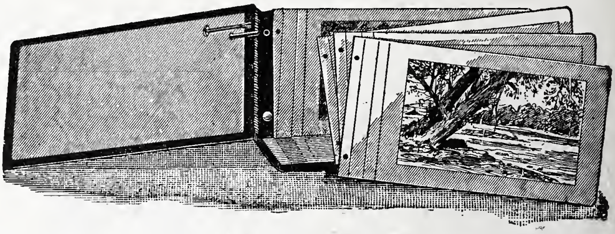

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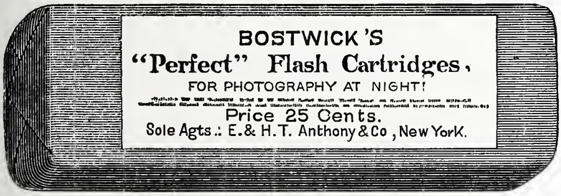
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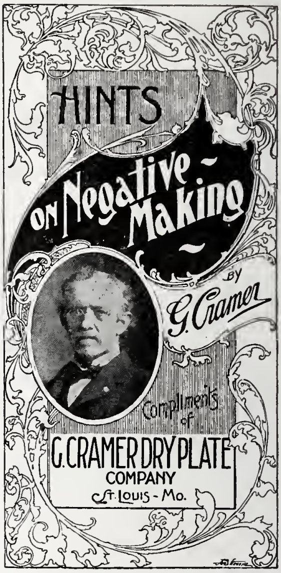

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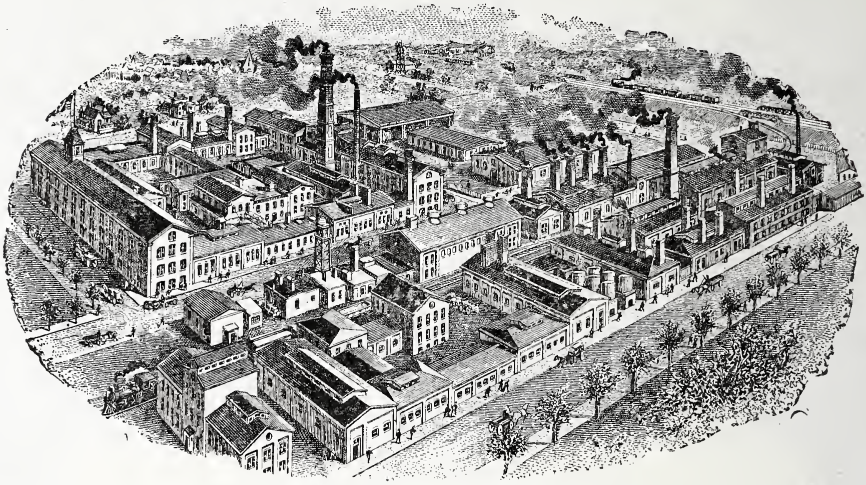

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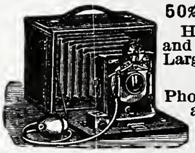

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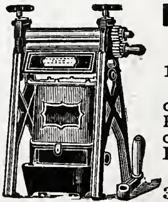

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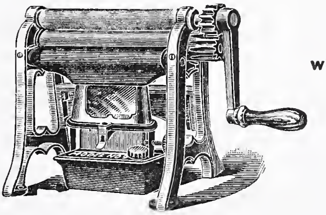

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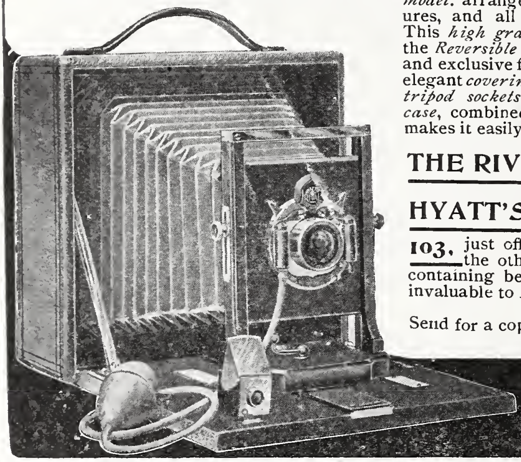

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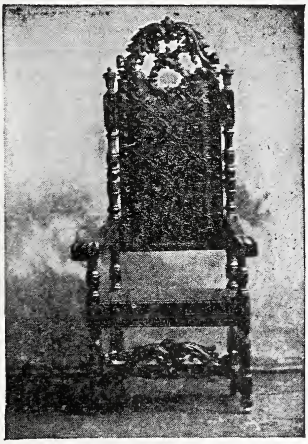

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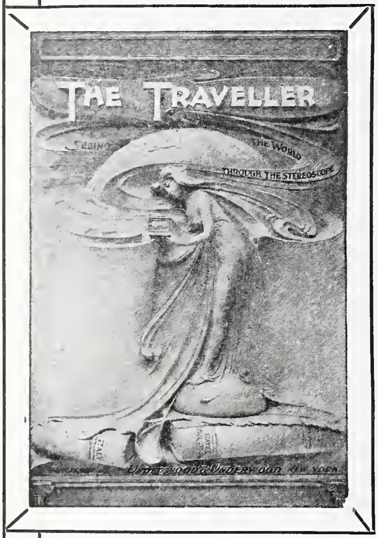
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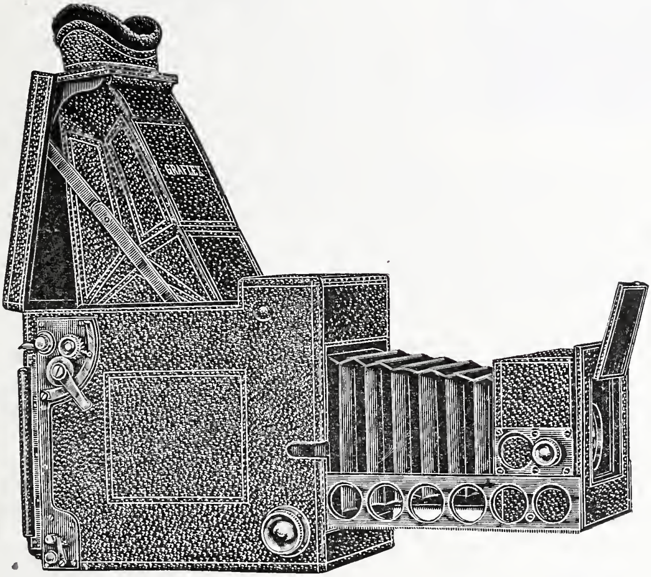

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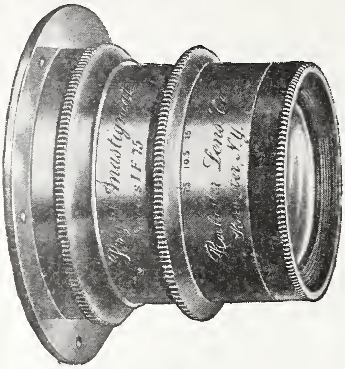

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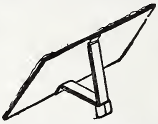

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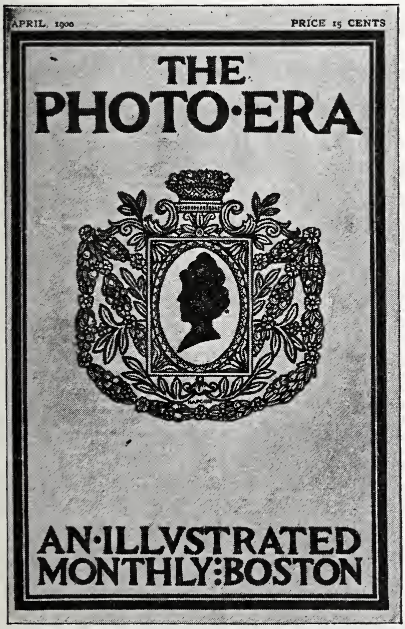

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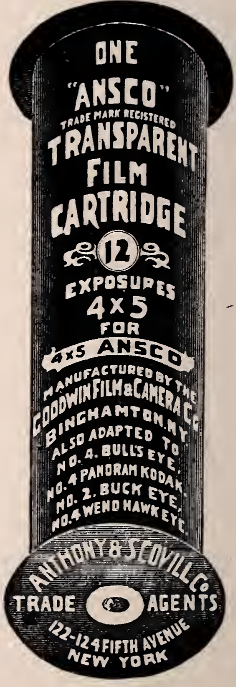

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Modern Lenses. *The Photo-Miniature Series No. 1.* Plainly written and fully illustrated. How to choose and use lenses; the various types described and their peculiar properties, with an account of the modern anastigmats. 1900. 8th thousand. 25 cents.

The Optics of Photography and Photographic Lenses. By J. A. Traill Taylor. 1892. (English.) A sound, practical book. Many diagrams. 240 pp. Cloth, $1 75.

Photographic Lenses. How to choose and how to use. By John A. Hodges. 1898. (English.) A good elementary handbook. Cloth, $1.00.

Photographic Optics. *S. & A. Series, No. 37.* A text-book for the professional and amateur. W. K. Burton. Paper covers, $1.00. Library bound, $1.50.

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Chemistry for Photographers. By C. F. Townsend. An excellent first handbook, simple and practical. (English.) 2d edition. 1899. Cloth, 50 cts.

The Chemistry of Photography. By Raphael Meldola. A series of printed lectures on theoretical chemistry for students. 1891. 371 pp. Cloth, $2.00. Postage, 11 cts.

The Chemistry of Photography. *S. & A. Series, No. 41.* By W. Jerome Harrison. The most comprehensive and satisfactory work on the the subject, but written from the historical rather than the modern practical point of view. 1892. 426 pp. Cloth, $3.00.

Hardwich's Photographic Chemistry. *S. & A. Series, No. 12.* A manual of photographic chemistry, theoretical and practical. (Ninth Edition.) Edited by J. Traill Taylor. Leatherette binding, $2.00.

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Artistic Lighting and at Home Portraiture. By James Inglis and L. Dundas Todd. (2d edition.) 1900. Fully illustrated. Paper, 50 cts.; cloth, $1.00; postage, 2 cts.

Figure Drawing and Composition. By Richard G. Hatton. (English.) 1900. 312 pp. With many illustrations. An invaluable text-book for all who have to deal with the figure, although not written for photographers. Cloth, $3.50.

The Lighting in a Photographic Studio. *S. & A. Series, No. 44.* By P. C. Duchochois. A new edition. Paper, 75 cts.

The Photographic Studio. Its construction, etc. By T. Bolas. The best work on its subject. (English.) 1895. $1.00; postage, 6 cts.

The Photographic Studios of Europe. By H. Baden Pritchard, F.C.S. Paper covers, 50 cts.: cloth bound, $1.00.

The Pose in Portraiture. (*The Photo-Miniature Series, No 2.*) A practical digest on the art of posing. With full instructions for posing single figures and groups, telling what to avoid, and how to obtain the most pleasing results. Fully illustrated. 1900. *Eighth thousand.* 25 cts.

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Elements of a Pictorial Photograph. By H. P. Robinson. 1896. 37 pictures in the text, and frontispiece "Storm Clearing Off." Chapters on: Imitation, The Study of Nature, The Use of Nature, Some Points of a Picture, Selection and Suppression, Composition Expression in Landscape, Idealism, Realism and Impressionism, Limitations, The Suds, False Purity, The Question of Focus, Models, Foregrounds, The Sky, The Sea, Rural Subjects, Lessons from Birket Foster, Winter Photography, Individuality. Postpaid, $1.75.

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Practical Pictorial Photography. By A. Horsley Hinton. 1898. Sensible little books. Illustrated. Part I. and Part II. Cloth, each, 50 cts.; postage, 4 cts. The two parts bound in one volume and better binding, $1.25; postage, 6 cts.

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The Perfect Negative. By F. C. Lambert. 1898. (English.) Chapters on the after-treatment of the negative. Intensification, reduction, etc. 135 pp. Illustrated. Cloth, 50 cts.; postage, 4 cts.

The Photographic Image. By P. C. Duchochois. A theoretical and practical treatise on development. Paper covers, $1.50; cloth bound, $2.00.

The Photographic Negative. *S. & A. Series, No. 25.* A practical guide to the preparation of sensitive surfaces by the calotype, albumen, collodion and gelatine processes, on glass and paper, with supplementary chapter on development, etc. By the Rev. W. H. Burbank. Cloth bound. Reduced from $1.50 to $1.00.

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The Art of Retouching Negatives and Finishing and Retouching Prints. By Robert Johnson. 1898. (English.) A complete and satisfactory handbook by a skilled retoucher. With many full-page illustrations. Cloth, $1.00.

J—PRINTING PROCESSES.

A B C Guide to Permanent Autotype (Carbon) Photography. By J. R. Sawyer. New edition. 1898. (English.) 104 pp. Illustrated. Cloth, $1.25.

Albumen and Plain Paper Printing. *The Photo-Miniature Series, No. 21.* A practical account of these somewhat neglected printing processes, written from the viewpoint of modern amateur photography. Includes the preparation of various kinds of paper and their manipulation, etc. Illustrated. 1900. 25 cts.

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Carbon Printing. By E. J. Wall. 1898. (English.) 89 pp. Carbon illustration. Cloth, 50 cts.; postage, 4 cts.

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Ferric and Heliographic Processes. By C. E. Brown. 1900. (English.) A complete handbook for photographers, draughtsmen, and all who use "blueprint" or allied papers. Illustrated with six actual prints and many diagrams. 130 pp. Cloth, $1.00.

Gum=Bichromate Printing. *The Photo-Miniature Series, No. 22.* A cleverly written and practical account of this fascinating method of making permanent prints. Illustrated in colors approximating the originals reproduced. 1901. 25 cts.

The Gum=Bichromate Process. By W J. Warren. 1898. (English.) 75 pp. Full page illustrations. 50 cts.

Lessons in Ozotype. A brief introduction to ozotype printing and gum-ozotype. Paper, 15 cts.; postage, 2 cts.

Modern Printing Processes. Gum-bichromate and platinotype. By Henry G. Abbott. 1900. 66 pp. Paper, 25 cts.; cloth, 35 cts.

Ozotype. By Thomas Manly. 1900. (English.) The only book on this new carbon method, and written by the discoverer of the process. 76 pp. Cloth, 50 cts.

Photo=Aquatint; or, The Gum=Bichromate Process. By Alfred Maskell and Robert Demachy. 1898. (English.) 55 pp. Cloth, 50 cts.

Photographic Printing Methods. *S. & A. Series, No. 22.* By the Rev. W. H. Burbank. A practical guide to the professional and amateur worker. (4th edition in preparation.) Paper covers, 75 cts.

Photographic Reproduction Processes. *S. & A. Series, No. 38.* By P. C. Ducochois. The reproduction of designs by "blue print" and other iron printing methods. 1891. Paper, $1.00; cloth, $1.50.

Platinotype. Its Preparation and Manipulation. An exhaustive and authoritative description of platinotype processes and papers. By Sir W. Abney and Lyonel Clark. 1897. (English.) Paper, $1.25; postage, 5 cts.

Platinotype Printing. By A. Horsley Hinton. (English.) Illustrated. Cloth, 50 cts.

The Platinotype Process. By W. J. Warren. Simply written, with practical details. (English.) 1898. Canvas, 50 cts.

Platinotype Processes. *The Photo-Miniature Series, No. 7.* How to use the different varieties of platinum paper. Hot and cold bath. Toning of platinum prints to sepia, red, brown, blue, etc. Glycerine development, etc. With special frontispiece and other illustrations. 1900. *Eighth thousand.* 25 cts.

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Popular Photographic Printing Processes. By Hector Maclean. 1898. (English.) A practical treatise on the various printing processes. 160 pp. Illustrated. Cloth, $1.50.

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How to Make Lantern Slides. By S. L. Colthurst. 1898. (English). 80 pp. Diagrams. Cloth, 50 cts.; postage, 4 cts.

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Lantern Slides. *The Photo-Miniature Series, No. 9.* How to make slides by all practical methods; gelatino-bromide, chloride, carbon "wet," etc. Special tones by development or by toning. Coloring slides, choice of mats, binding, etc. 1900. *Eighth thousand.* 25 cts.

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Moder Magic Lanterns and Their Management. By R. Child Bayley. 1897. (English.) 104 pp. Illustrated. Paper, 50 cts.

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Bichromate Salts in Photography. Six lectures by Sir Wm. Abney, W. T. Wilkinson, and others. 1896. (English.) 28 pp. Paper, 50 cts.

Half=Tone On the American Basis. By W. Cronenberg. 1896. (English.) 160 pp. Illustrated. Cloth, $1.00.

Photo Aquatint and Photogravure. By Thomas Huson. With an appendix on machine-printed photogravures. A book by a practical artist. Fully illustrated. 1897. (English.) Cloth, $1.00.

Photo=Engraving. By A. C. Austin. With chapters on three-color work. Illustrated. 1898. Cloth, $2.00; postage, extra.

Photo=Engraving in Line and Half=Tone; Photogravure; Collotype; Heliotype; The Swelled Gelatine Process; and Photo=Lithography in Line and Half=Tone. By W. T. Wilkinson. Revised and enlarged by Edw. L. Wilson. 180 pp. 1888. Cloth, $3.00; postage, 14 cts.

Photographic and Photo=Mechanical Printing Processes. By Prof. W. K. Burton. English methods, but reliable and comprehensive. (English.) 1892. 415 pp. Cloth, $2.00.

The Photogravure. *S. & A. Series, No. 51.* By Henry R. Blaney. A very complete and practical book, written by an expert. Paper covers, 50 cts.; cloth bound (Library edition), $1.00.

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The Half-Tone Process. By JULIUS VERFASSER. A short treatise by a practical man. 1896. (English.) 170 pp. Illustrated. Cloth, $1.00; postage, 6 cts.

A Treatise on Photogravure in Itaglio by the Talbot-Klic Process. By H. DENISON. Illustrated. (English.) Bound in buckram, $2.25.

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Art of Photographic Painting. By A. H. BOOL. 1891. Cloth, 50 cts.

Art Recreations. Ladies' popular guide in home decorative work, with a chapter on photography. Edited by MARION KEMBLE. $1.00.

Bird Studies with a Camera. With an introductory chapter on the outfit and methods of the bird photographer. By FRANK M. CHAPMAN. Illustrated. 218 pp. 5 x 7½. Cloth, $1.75.

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The Chemical Effect of the Spectrum. *S. & A. Series, No 15.* By Dr. J. M. EDER. 86 pp. Paper, 25 cts.

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Handbook to Gothic Architecture. For photographers and others. By T. PERKINS, M.A. (English.) 1897, Cloth, $1.75.

The Hand Camera and How to Use It. By WALTER D. WELFORD. 1899. (English.) (4th edition, revised.) Illustrated. 120 pp. Cloth, 50 cts.

Hand Camera Work. *The Photo-Miniature Series, No. 3.* Descriptions of various hand cameras for plates and films. How and where to use a hand camera. A complete guide from the American point of view. 1900. *Ninth thousand.* 25 cts.

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Home Portraiture for Amateur Photographers. By RICHARD PENLAKE. 1899. (English.) 144 pp. Illustrated. $1.25.

Indoor Photography; Flash Light Studies of Child Subjects. By BERTHA M. LATHROP. 1896. (English.) 40 pp. Illustrated. Paper, 25 cts.

Industrial Photography. Illustrated. By P. C. DUCHOCHOIS. Being a description of the various processes of producing indestructible photographic images on glass, porcelain, metal and many other substances. Paper covers, $5.00.

Instantaneous Photography. *S. & A. Series, No. 55.* By Sir W. DE W. ABNEY. (English.) 1895. Chapters on shutters, lenses, exposures, development, flashlight photography, etc. Paper, 75 cts.

Living Pictures, Their History, Photoproduction, and Practical Working. By HENRY V. HOPWOOD. 1899. (English.) A very complete work on animated photography with annotated bibliography, and digest of British patents. 270 pp. Diagrams. Cloth, $1.25.

Mounts and Frames. By F. C. LAMBERT. 1898. (English.) Practical instructions in their choice and manufacture. 146 pp. Cloth, 50 cts.

New Pointers in Photography. By GEO. E. MELLEN. 1900. Pointers that are practical, chiefly for hand camera workers. 64 pp. Illustrated. Paper covers, 20 cts.

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Photography Applied to the Microscope. *E. & A. Series, No. 36.* By F. W. MILLS. With a chapter on mounting objects for the microscope by J. CHARTERS WHITE. Illustrated with half-tone plates and wood-cuts. Price, $1.00; postage, 6 cts.

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Photography at Night. By P. C. DUCHOCHOIS. Illustrated. 108 pp. Paper covers, $1.00.

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Photography in Colors. By R. CHILD BAYLEY. 1900. (English.) A popular description of the best known processes of color photography. 74 pp. Cloth, 50 cts.; postage, 4 cts.

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Photo-Micrography. By EDMUND J. SPITTA. 1899. (English.) 162 pp. Illustrated. Cloth, $5.00.

Pictures in Black and White. *Anthony's Series, No. 24.* By GEORGE MASON ("Mark Oute.") A racy collection of historical sketches. A capital book, full of genuine humor and very instructive. 12mo. 188 pp. Illustrated. Paper. Price, 25 cts.; postage, 5 cts.

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Practical Radiography. The practical application of X-rays. (English.) 1898. By A. W. ISENTHAL and H. SNOWDEN WARD. Revised and enlarged. 128 pp. Cloth, $1.25.

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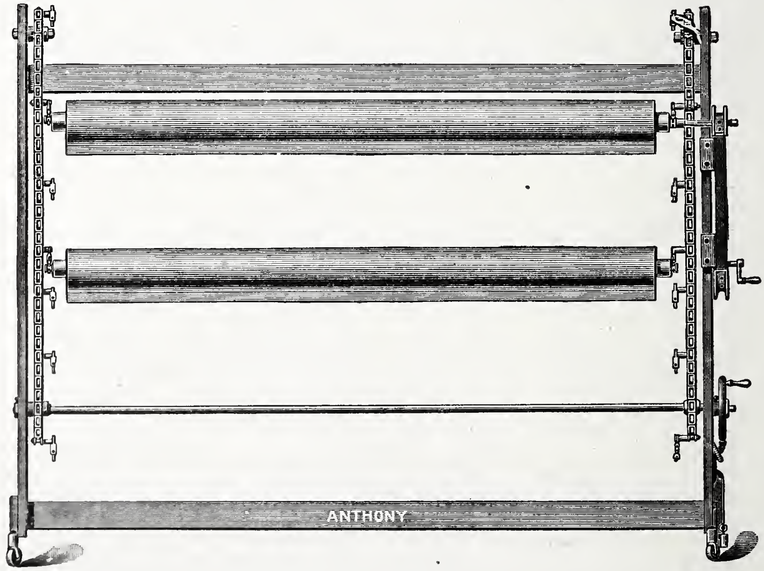

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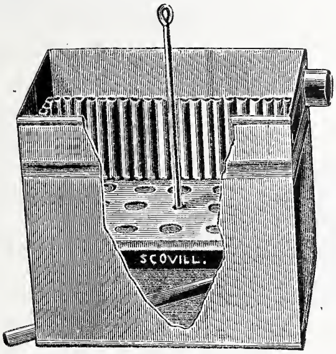

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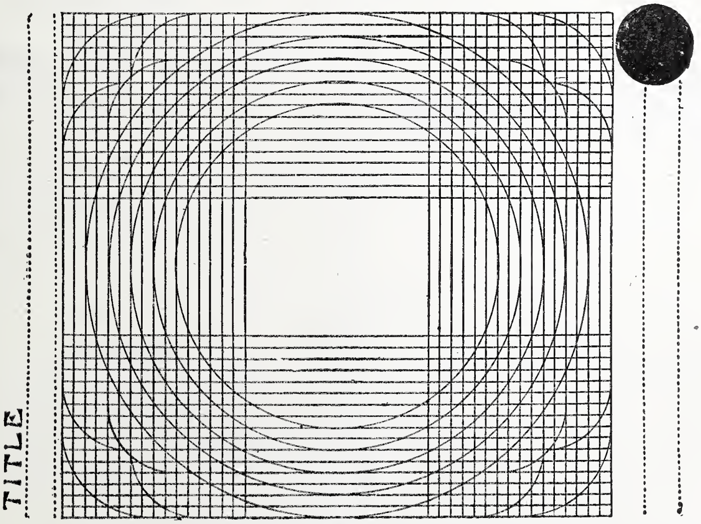

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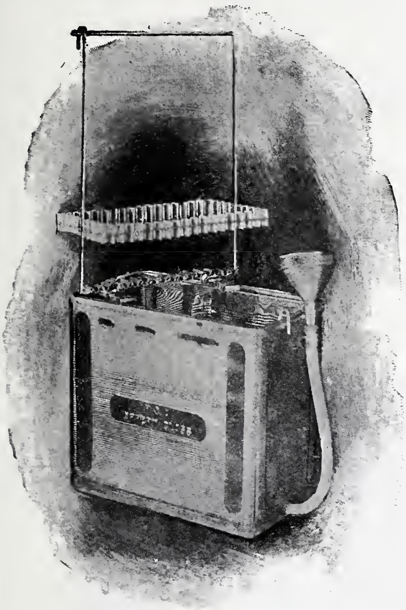

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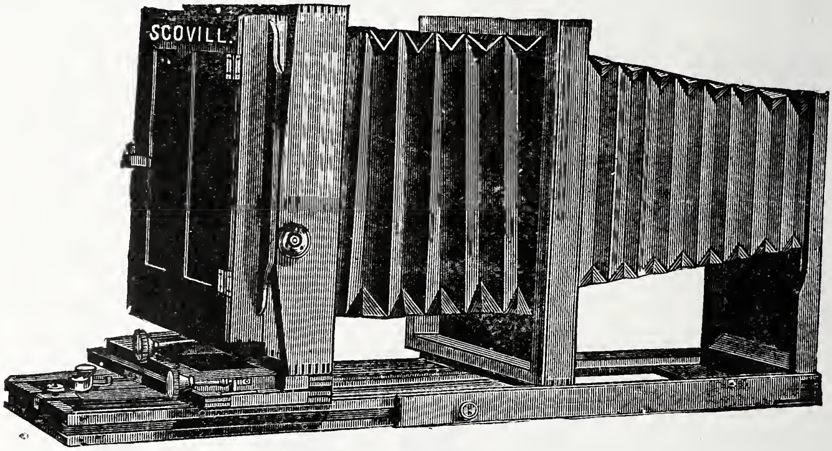

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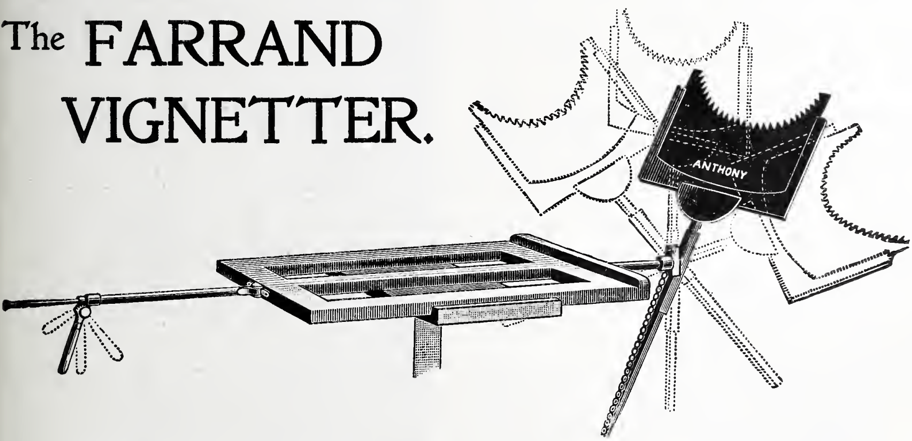

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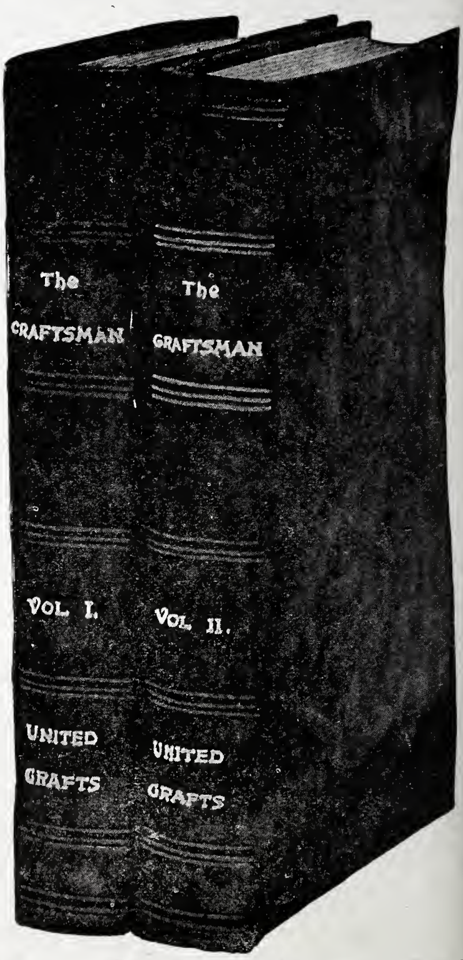

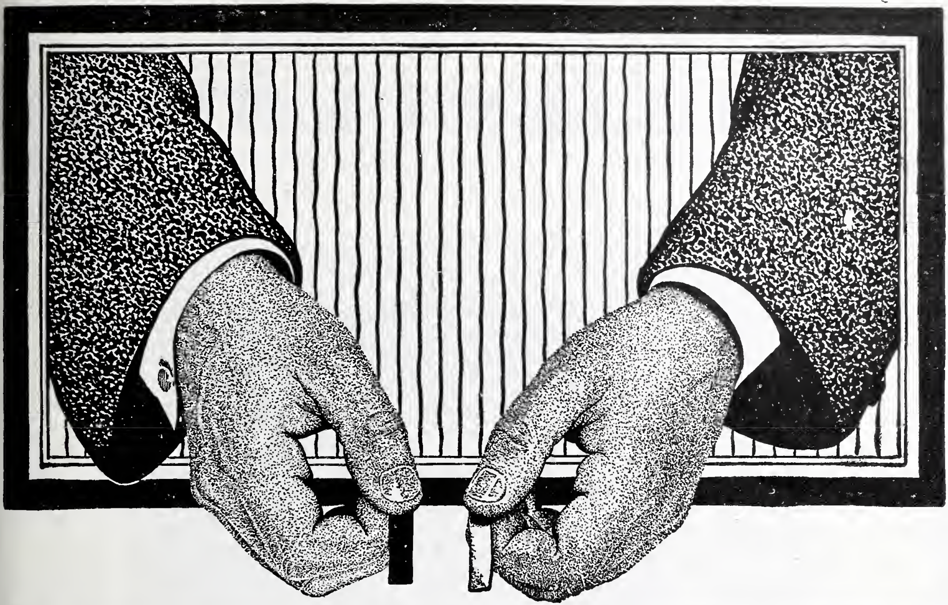

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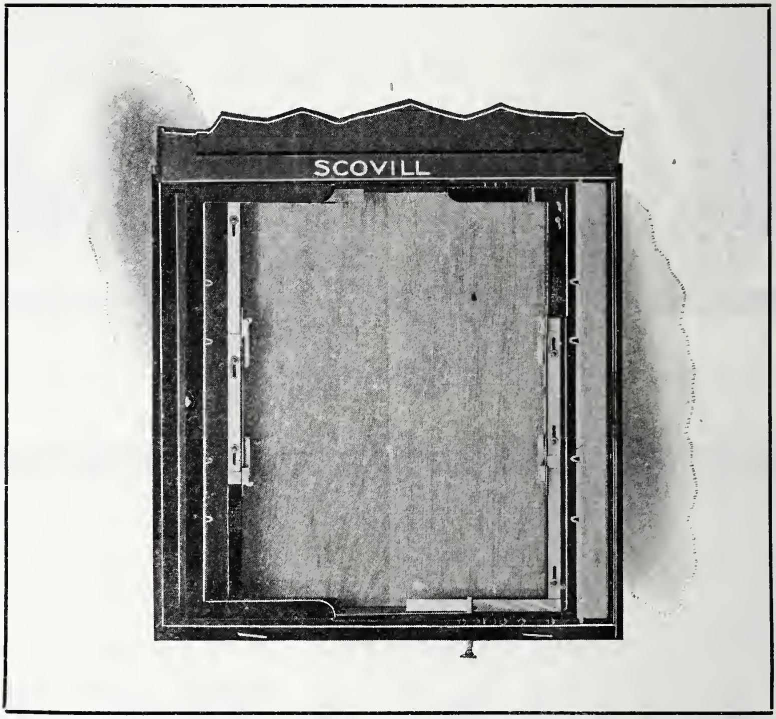

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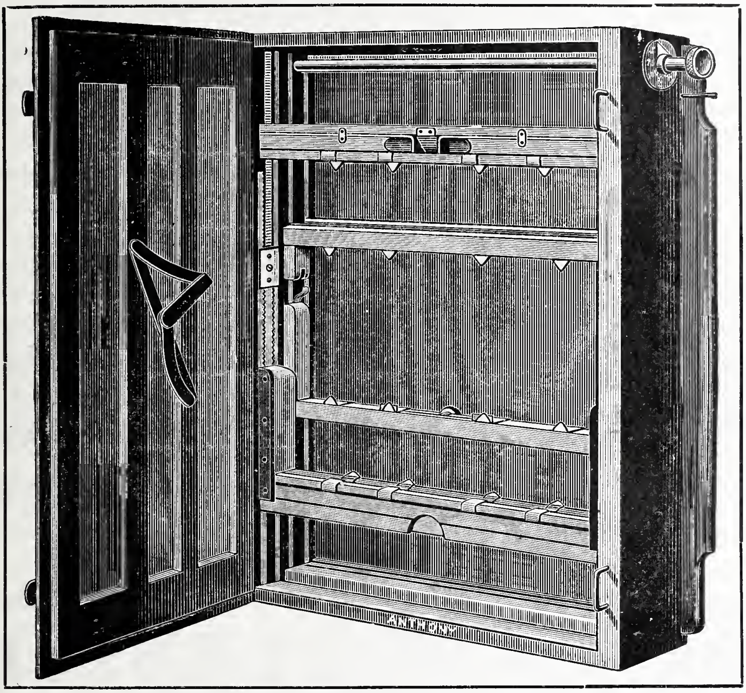

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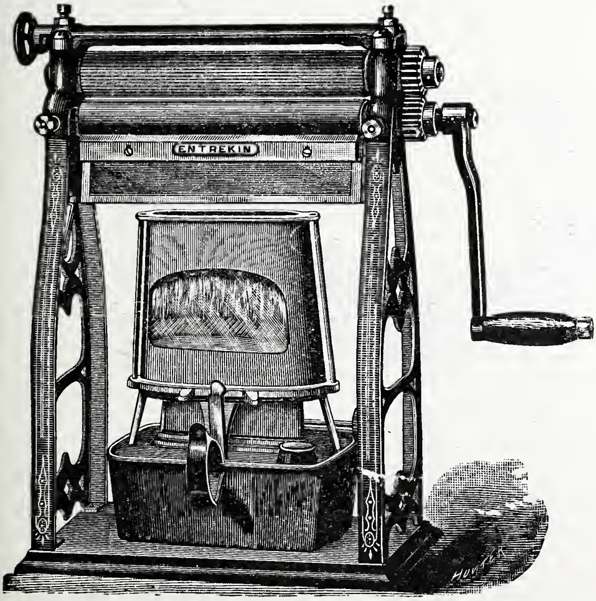

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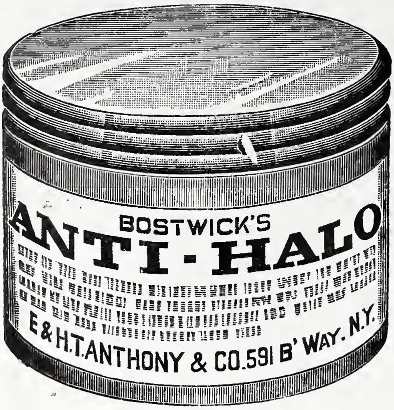

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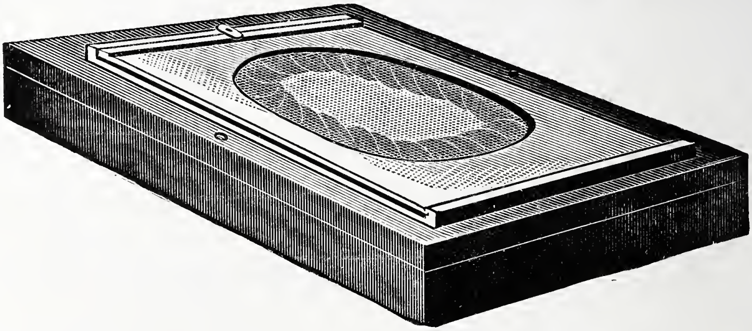

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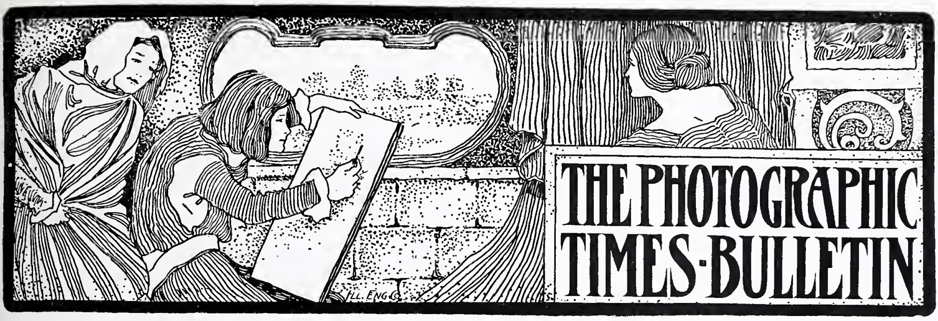


THE PHOTOGRAPHIC TIMES-BULLETIN

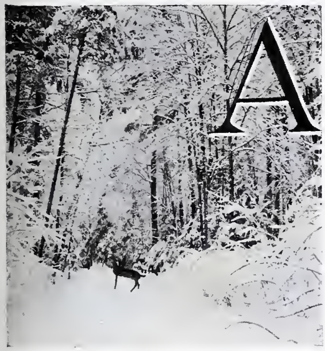
EDITORS: PROF. CHARLES F. CHANDLER, PH.D., LL.D., SPENCER B. HORD.

VOL. XXXV. MARCH, 1903. No. 3.

AFTER A SNOWSTORM.

BY SIDNEY ALLAN.

Illustrations by Rudolf Eickemeyer, Jr.



A GREY sky hung heavy over the country. The wind blew northeast; and as it went moaning through the avenue of elms, which, like a row of spectres, lead to the old homestead, one believed to hear the wintry roar of the ocean in it.

The smoke of the chimney floated like a pennant earthward and disappeared in the dark air, which hovered over the naked woods and the brown hills in the distance.

The old farmer, busy with his daily stack of wood in the back yard, had repeatedly felt his leg and curiously looked up to heaven. As he gathered the stout and knotty sticks into his arms to take them indoors and pile them against the chimney back, he threw one more scrutinizing glance at the sky, and nodding his head, gave voice to the thought that had bothered him for the last hour or so, murmuring:

"We'll be snow-bound before the week is up."

The old farmer was right in his prophecy. During the night there was a change in the temperature, and the next morning the snow-birds arrived. Sporting and twittering they alighted at the edges of the half-frozen pools, which were covering the sunken fields, then continued their journey southwards to spread everywhere the news that a snowstorm was brewing in the northeast. And before bedtime had arrived the snow lay inch deep on the window frame.

For days the snow kept up his busy work. The white spread grew steadily higher and higher, it seemed as if the snow did not only fall from above, but also rose from below.

It had buried the well, the carriage-house was absolutely invisible; and even the roads threatened to become fenceless-drifts. From the low window one saw nothing else but a curtain of whited air.

The snowflakes were unusually small.

The wind whirled them together, not to unite them to larger flakes, as he is apt to do in milder weather, but to break their fragile forms and to shatter them into still smaller fragments. All the familiar sights of earth and sky and sun had vanished, and an unknown world of snow and wind seemed to have taken possession of nature.

The country people now began their fight against these avalanches, which threatened to suffocate them as if under a big winding sheet. They cut roads in all directions through the solid whiteness and with stubborn patience shoveled the snow from porch and well. But it was all futile. The cold steadily strengthened and with it came more snow and a renewed blast from the northeast. He behaved like a fiend, he blew the snow like smoke across the country, howled around the gables of the house, and now and then, with a sudden shock, tore a brick from the tall chimney or loosened a clap-board of the barn. Even the woods groaned as if worn out by this terrible onslaught. The cold proved a grim assistant to the gale. Neither mittens, buskins, nor homespun coats could keep out the bitter chill. The cows shivered in the straw-littered stalls and even the gallant and champion cock of the yard ceased his querulous challenges. The cold made its way through every crack and crevice, and in the silence of the night one heard the woodwork loudly snap in the frost.

It seemed as if "the Ruler of the inverted year," in one of His most tyrannious moods, intended to obliterate all signs of life, and to bury under His ermine mantle all that still breathed.

And yet it was a rare enjoyment to watch the progress of the storm, for is there, after all, anything more inspiriting and more beautiful, if you have an eye for the sterner loveliness of Nature, than a good old-fashioned New England snow storm?

Compare the storms of winter with those of all the other seasons—the fickle or spiteful alternate weepings and reconcilements of spring; the angry outburts of the summer thundergusts, the dreary tempests of autumn, and you will agree with me that there are few spectacles more gratifying to our senses than that of a snowstorm in its beginning, its progress, as well as in its end, above all else in its results. For, after patient waiting, the morning comes, when we are awakened by the sun shining through the frost flowers on the window panes. The snow storm has ceased, and we can venture forth again from the narrow rooms, where we are confined like bears in their winter quarters. A gay cavalcade of teamsters, lustily performing the task of regaining the lost possession of their snowbound roads, stops before the old homestead. Merry voices resound, and the cider mug passes from lip to lip. Then, with an added team, the procession moves slowly on, and is soon lost in the snowdrifts.

To view a snowy landscape from the window of a well-heated room doubtless adds greatly to our capacity of enjoyment. But, after all, the place really and thoroughly to enjoy the delights of winter is out-doors. No one knows that better than a healthy boy; and those of us who long ago left boyhood behind us may catch sweet and pleasant echoes of our childhood's music by taking part occasionally in the winter sports of our boys and girls.

Let us bundle ourselves up well and venture forth. What strange transformation the whole farm has undergone. The stone fences look like white continuous mounds—only here and there a stone crops out, while the rail fences appear strangely dwarfed. The pigstye has a lofty dome, the corn crib white turrets, and the eaves of the old barn has taken the shape of a Chinese roof, and every-

where the old homesteads rise like little hills—just as if a river had ornamented its bank and framed the frozen waves in rising and falling curves over the country.

A melancholy poet like Thomson, who wrote his "Winter" in bed in a cold room with a hand through a hole in the blanket, may have likened this scene to an enormous graveyard, whose silence could only be broken by some midnight bell. To us of a more cheerful mood, it rather suggests a gay, white spread, on which the old potentate will regale us with all sorts of amusements peculiar to his season—as the building of snow images, coasting and sleigh-rides in the moonlight—but of these the youthful reader no doubt knows much more than I ever knew or have forgotten.

How gaily the sleighbells ring out;

northern climate than the allanthus trees, which have come to us from the celestial empire, it depends with all trees very much on their condition, when the winter sets in, and whether their new growth has sufficiently reopened during fall. If this is the case the only danger are prolonged thaws, followed by sudden frosts.

Nothing is more enervating than dull thawing weather, when the sky looks like a dirty grey rag, soiled with mud and torn to tatters, and the damp fogs weigh our shoulders down. It awakens in us a vague feeling of anxiety which nature seems to share with us. The moisture finds its way everywhere ; it deluges the soil, penetrates into the pores of the rocks, and creeps into the half developed buds.

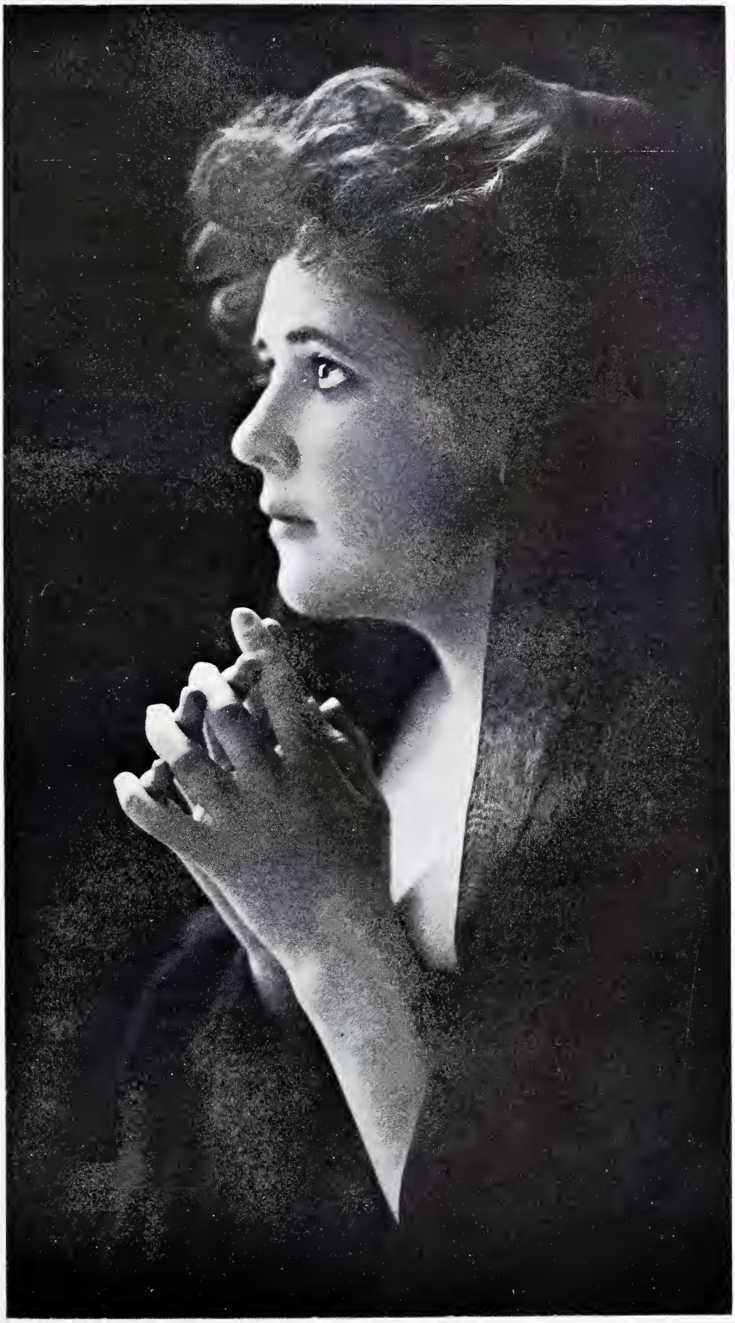
Then the frost comes. He smites the few leaves that have still remained, and the winds which follow wherever he goes, shake them to earth. He freezes the moisture which accumulated on the buds during the thawy weather, and destoys their tender growth. Peachtrees, therefore, should be cultivated on northern slopes, where the sun is not vivid, and where the buds can lie dormant until the days of late frosts are over.

But as evil as the frost may be as we trace his footsteps over the blasted fields and the lonely woods on the brows of the hills so beneficial is his work underground.

My attention was drawn to it, as I walked along an old board fence, and found that several of the fence posts had been lifted out of their places. At first I was puzzled and did not know whom to designate as the wilful deprecator. But remembering to what an alarming degree water congealed by frost expands, and how glassware and pipes are apt to crack by the freezing of water in them, I knew that it could be nothing else but the moisture in the soil beneath, which had frozen, swelled the earth, and in that manner forced up the posts.

And I suddenly realized that everywhere under this deep and white silence King Frost was performing his task.

With the effect of a multitude of crowbars and chisels of all sorts and sizes, weilded by an invisible army of workmen, he was tilling the ground, widening every crack, as if wedges were forced into it, tearing the soil asunder, separating grain from grain, reducing it to powder, and thus preparing the way for the roots of next year's vegetation in a way that no plow or harrow yet invented could accomplish with equal success.



STUDY. By Charles J. Dampf.

THE CREDULITY OF CASEY.

BY HARRY C. RUBINCAM.

“ ’TIS th’ lins thot makes th’ pitcher,’ th’ advertoismint sez,” said Casey, “an’ begod ye think ’tis th’ thrue wur-rd till ye get out in th’ counthry with plinty of linses an’ no pla-ates. Or mebbe yez hov th’ lins an’ th’ pla-ates an’ wan of thim ixposhure methers some wan foorced on ye whin ye were in a thrance. Th’s an’ ould prover-rb made up of a bunch of wur-rds, th’ thrue mannin’ of which is, ‘Hov sinse’. Thim two wur-rds shud be printhed in rid lit-ters on th’ frunt page of all photygraft magyzanes, pahsted in th’ hat of ivery photygrafter, car-rved on th’ top of ivery cameera an’ painted on th’ sloides of all th’ pla-ate howldhers. Thin th’ lad that publishes thim little books with ixposhure tables in thim wud hov t’ go t’ wur-rk or shtarve.

“I, mesilf—an’ I oftin think I hov ould Dan-ial Wibshter lookin’ loike shtale doughnots fur wisdom—sometoimes go sailin’ doon th’ hoigh-says of dom foolishness, me sails swillin’ with th’ hot air from some fuddlin’ brain, an’ me hilm sit t’ a char-rt thot marks a coorse as crooked as th’ past loife of a tintype wagon man. Hod yez looked upon me wan Sunday marnin’, yisterday two wakes, tin moiles beyant nowheres, wadin’ through shnow t’ th’ tops of me hip boots, bloinded be th’ dr-rifts an’ pearsed be th’ icy blashts, makin’ ixposhures be the say-so of wan of thim ixposhure methers, ye wud hov rung fur th’ amblince an’ hurried me t’ th’ insane war-rd.

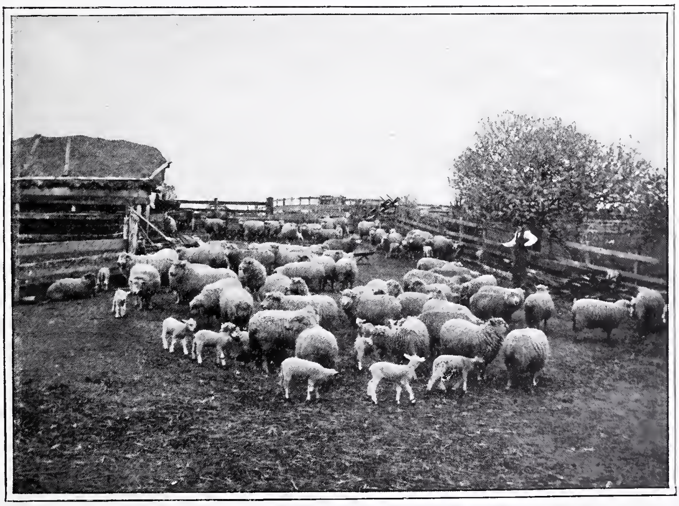
“Th’ archytict on th’ job over t’ th’ building’ sez t’ me, ‘Casey,’ sez he, ‘ye shud go along with me,’ sez he, ‘an’ make th’ shnow pitchers,’ sez he, ’an’ there I wuz. Th’ first place we shtruck wus a far-rm, though begod, th’ wuz nothin’ but th’ makins of shnow-balls shproutin’ from th’ fertile sile. In th’ far-rm yar-rd wuz the far-rmer hitchin’ an’ ould nanny-goat of a harse t’ a shnow scra-aper. ‘Hist!’ sez the archytict, ‘’tis th’ foine John,’ sez he. ‘Yis!’ sez I, ‘Is it th’ ix-ra-acer,’ sez I, ‘or th’ lad with th’ rid mits,’ sez I, ‘thots yer frind John,’ sez I. ‘No,’ sez he, ‘’tis th’ name of no wan,’ sez he, ‘’tis Frinch,’ sez he. ‘Talk sinse,’ sez I, ‘talk sinse.’ We intherjuced oursilves t’ th’ man with th’ woolen muffler an’ axed him t’ pose fur an’ imytashun of a man hitchin’ an’ imytashun of a harse. ‘I wundher,’ sez I, ‘what wud be th’ roight toime,’ sez I. ‘Ah!’ sez th’ archytict, ‘lave thot t’ me,’ sez he. ‘I have here,’ sez he, takin’ a book frum his pocket, ‘wan of th’ Grapho-Loight house ixposhure methers,’ sez he. ‘Now lit me foind th’ toime,’ sez he, ‘Open lanscape, sayscape, clouds, shnow,’ sez he, ‘glarin’ sun, br-right sun, dull sun, faint shadder cast be sun, no sun,’ sez he; ‘March t’ May, June to Siptimber, October t’ Dacimber,’ sez he, ‘sivin t’ tin, tin t’ two, two t’ sivin,’ sez he, ‘wan, sivin, thirty wan, noine, sixty foore, wan fiftieth on U. S. foore,’ sez he.

“I think the laddey buck with th’ rid mits wance belonged t’ th’ Bingville fut-ball tame, fur he shtarted t’ tackle th’ harse whin th’ archytict shprung thim signal combynashuns, but he racovered an’ sed somethin’ t’ th’ woolen muffler I did’nt hear. We made pitchers of th’ ould man goin’ t. th’ bar-rn an’ comin’ away an’ of th’ yar-rd an’ th’ fince an’ th’ house, th’ archytict howldin’ argymints with th’ ixposhure tables all th’ whoile an’ wance goin’ t’ th’ barn t’ figure it out, with a pincil an’ a pa-aper.

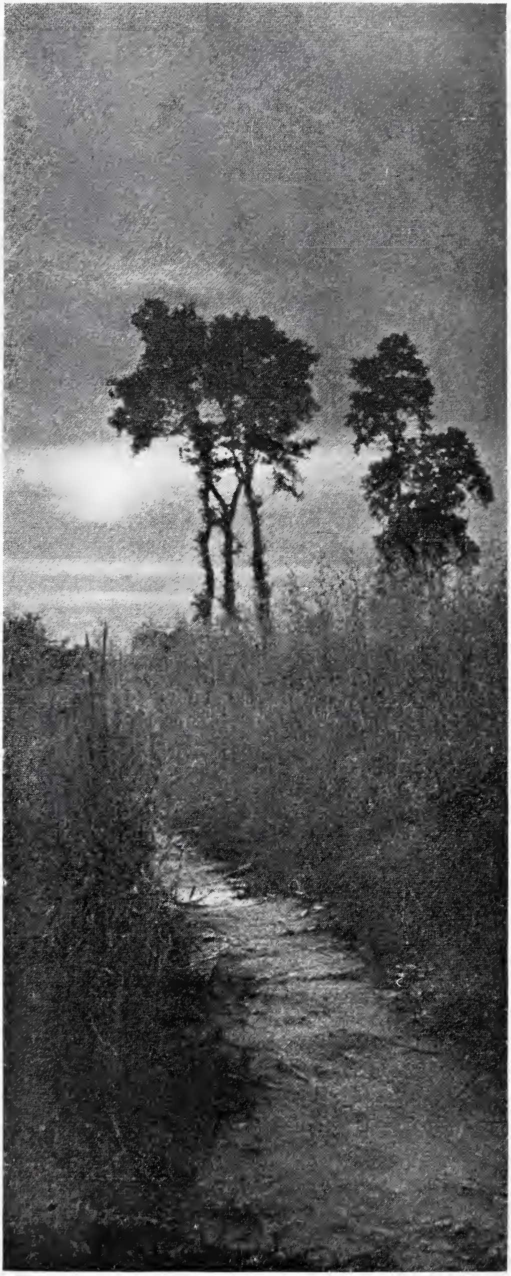
“Thin we wint t’ th’ fields. Did yez

iver walk over ploughed fields with twinty inches of shnow on thim? 'Tis wan of th' most propishus occashuns fur rumnatin' on th' dagrees of mintal pervershun. A pair of heavy hip boots adds zist t' th' mintal recrea-shun an' increases th' good of th' muscular ixercoise. As we shplathered over th' fields, shtoppin' iver an' anon, as th' pote sez, t' make ixposhures or t' pick oursilves an' aich ither from th' barb-woire finces, I heard a foghorn voice come from th' shnowy disthance an' lookin' saw a blotch on th' skoy loine that rasimbled a figure. He, an' it was a he, fur thim counthry lasses are not always syreens of th' coral rafes, sed somethin thot sounded loike, 'What are yez dom fools doin', but not bein' certain of th' quistion, an' avin if me ears heard roight bein' shtill moore uncertain as th' answer owin' t' th' infloonce of th' ixposhure mether on what we were doin', I plodded along loike a diff harse with an off bloind soide.

"Thin we hided fur home an th' dar-rk room. Thirty-six ixposhures wus there, man, an' not a dom wan of thim anny good. Overtoimed t' bate th' ca-ars. 'I hov heard,' sez I, 't' th' archytict, 'thot be th' aid of a few methers,' sez I, 'th' lad thot owns a gas-house,' sez I, 'can kape th' wolves from comin' in th' front dure,' sez I, 'an' pickin' th' diomints from th' tile in th' hall flure,' sez I, 'but who th' divil,' sez I, 'is th' mogul thot benefits be th' ixposhure mether?' 'I wundher,' sez he, 'did I say th' thing roight from the book,' sez he. 'Yez did,' sez I. 'Ye sed it roight an' foine,' sez I. 'Sometoimes,' sez I, 'it sounded loike a cross betwane Mark Antony's o-rashun an' a Chinese love song,' sez I. 'Mebbe,' sez he, ''tis th' altychude,' sez he. 'Dinver is hoigh,' sez he, 'an' th' book sez nothin' about altychude,' sez he. 'Begod thot's it,' sez I. 'Th' lad minshuns,' sez I, 'all th' is in Rand McNalley's Atlis,' sez I, 'an' th' Wur-rld Almanac,' sez I, 'but he sez nothin' about latychude, longychude an' altychude,' sez I, 'an' it must be wan of thim or somethin' ilse,' sez I."



THE SHEPHERD AND HIS FLOCK. By A. J. Swanson.



THE GOLDEN HOUR. By Bertram C. Wickison.
1902 Salon, Royal P. S., London.

ART CRITICISM.

BY J. SCOTT HARTLEY.

IF I may be allowed space I should like to explain my position a little clearer in regard to art criticism.

For Ruskin as a writer I have a most profound respect and admiration. He was referred to in my previous letter to the editor of THE PHOTOGRAPHIC TIMES-BULLETIN as a critic. It is rather enjoyable once in a while for the artist to criticise his critic and so reverse the natural co-relation of the two.

"The Stones of Venice," which for exquisite beauty of thought and descriptive power is unexcelled in the literature of the world, would alone place Ruskin in the highest rank of writers.

But when he refers to the painter's art his imagination is like the lark which soars up and up into the heavens almost beyond human vision and then bursts forth into song as if in worship of the glories of the world spread out before it. But the song has no connection whatever with the bit of canvas on which the artist painted a section of his individual music—a symphony in color, perhaps, or a harmony in grey.

It is a common delusion with the public—that is, with those who do not think for themselves—that florid language and fluent and eloquent writing make good art criticism. True art criticism must be founded on knowledge of the subject discussed, and the consideration of the great principles of breadth and unity that govern all nature, and, to be effective must be calm, analytic, and appeal to the understanding rather than to the emotions.

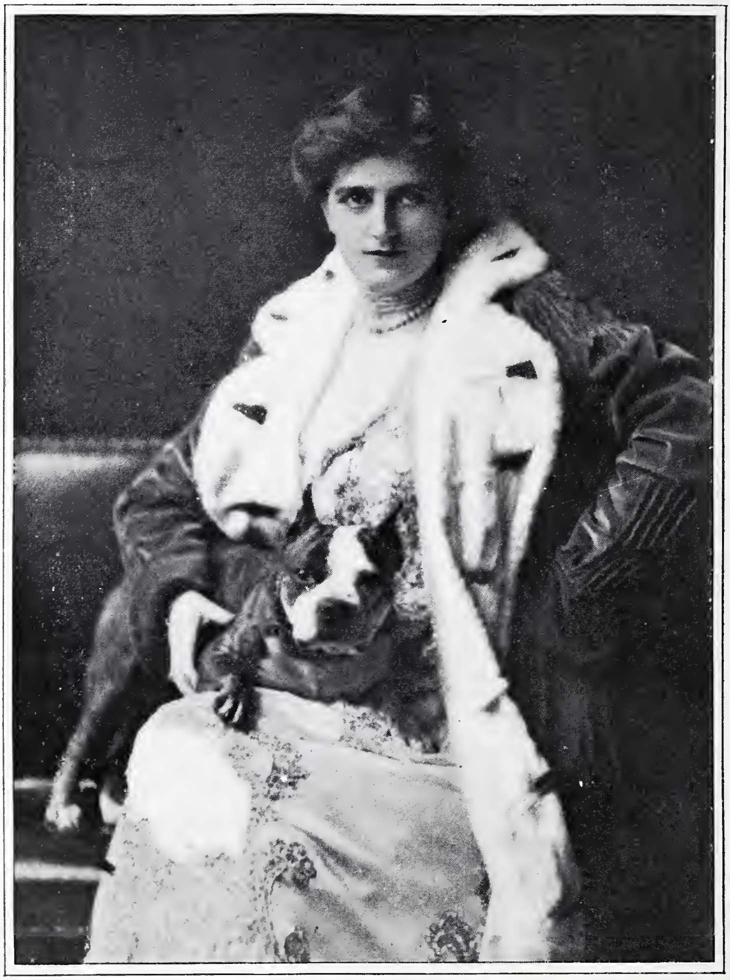
A word now regarding the amateur photographer. The little band of painters and sculptors in this country welcome the constantly increasing army of amateur photographers as effective co-workers in the struggle to emancipate mind from the slavery of deadening routine—the necessary rut of every-day existence, a habit which finally becomes fixed, to the exclusion of much that would elevate and enoble the mind, and give enjoyment of life in its higher phases.

The distinctive difference between man and animal is that man only possesses the power of abstract thought. The habit of life in most people is but a daily treadmill. The mental abstraction comes second-hand through the thoughts and imagination of a few as embodied in books and newspapers. The book of nature, to those who seek, unfolds greater truths and beauties than were ever written by man. What can be more beautiful and soul-inspiring than a sunny Autumn afternoon? What grander poem than an everyday sunset?

The impulse leading the amateur in photography to photograph a bit of natural scenery that appeals to him is identical with the impulse that stirs the artist to portray on his canvas the scene that gladdens his eyes. Each is trying to express that amount of satisfaction which the scene before him has afforded. To be sure, the amateur photographer will lack the power to express the satisfaction to the full scope which the craft of the artist enables the painter to do.

The photographer's inventive skill and ingenuity may increase the efficiency of the camera in reproducing natural objects, and his artistic skill in knowing how to avail himself of the natural conditions, such as the time of day, light and shade, etc.; and, in treating the negative, the camera may grow in its efficiency and power to even greater degree than has yet been attained.

But to the painter an ever fuller scope and range from experience will fall as his own due, for he has less mechanism between himself and the object he is to paint. The motive, however, and the act itself, in the case of the photographer and the artist, are the same, and are, indeed, the motive and the act that are present in the mere expression of delight in nature which the simple-loving observer may have, for in each case the one desire is to express the individual satisfaction that the soul has experienced in the presence of nature. The difference is thus not one of intent, but of scope.



MAXINE ELLIOT. By Arnold Genthe.

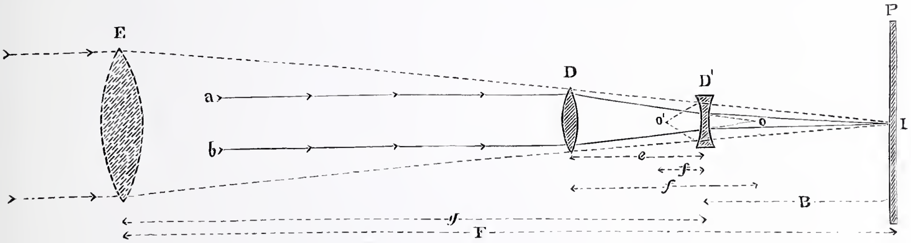
OPTICAL PRINCIPLES OF THE TELEPHOTO LENS.

BY CLARENCE E. WOODMAN.

THE system of lenses, D and D′, represents a Telephoto objective—D being the converging or *positive*, and D′ the diverging or *negative* element.

Parallel rays, a b, entering D, would, if unobstructed, meet at O, at a distance f from D; but before they reach that point they encounter the diverging lens D′, (whose virtual focus is at O′—a distance of f′ from D′), and are separated, so that they meet at I. It is evident, then, that the focal length (F) of the combination is equal to that of an imaginary lens, E, at a distance of F from the plate P.

Now, let e = amount (in inches) of separation between D and D′; f = focal length of D; f′ = focal length of D′; B = distance between plate (P) and D′; y = distance between imaginary lens (E) and D′; and F = focal length of whole system.



Then (by general formulæ of optics)

$$F = \frac{f\ f'}{e - f + f'}.$$

$$y = \frac{e\ f'}{e - f + f'}.$$

By inspection of figure, B is evidently equal to F — y. Hence:

$$B = \frac{f\ f'}{e - f + f'} - \frac{e\ f'}{e - f + f'} = \frac{f'\ (f - e)}{e - f + f'};$$

whence—

$$e = \frac{B\ (f - f') + f\ f'}{B + f'}.$$

Given the case of a special Telephoto lens, in which f = 11 in. and f′ = 5 in. Required e and F for various values of B.

(1) Let B = 10 in. Then—

$$e = \frac{10\ (11 - 5) + (11 \times 5)}{10 + 5}; = 7.6666 \text{ in.}$$

$$F = \frac{11 \times 5}{7.66 - 11 + 5}; = 33 \text{ in.} = 2 \text{ ft. } 9 \text{ in.}$$

The full aperture of front lens is 1.375 in. The intensity ratio (I) of this combination is, therefore, 33 ÷ 1.375 = F/24.

(2) Let B = 11 in. Then—
e = 7.5625 in.
F = 35.2 in. = 2 ft. 11.2 in.
I = F/25.6.

(3) Let B = 12 in. Then—
e = 7.4706 in.
F = 37.4 in. = 3 ft. 01.4 in.
I = F/27.2.

(4) Let B = 13 in. Then—
e = 7.3888 in.
F = 39.6 in. = 3 ft. 3.6 in.
I = F/28.8.

(5) Let B = 14 in. Then—
e = 7.3158 in.
F = 41.8 in. = 3 ft. 5.8 in.
I = F/30.4.

(6) Let B = 15 in. Then—
e = 7.25 in.
F = 44 in. = 3 ft. 8 in.
I = F/32.

(7) Let B = 16 in. Then—
e = 7.1905 in.
F = 46.2 in. = 3 ft. 10.2 in.
I = F/33.6.

(8) Let B = 17 in. Then—
e = 7.1364 in.
F = 48.4 in. = 4 ft. 0.4 in.
I = F/35.2.

(9) Let B = 18 in. Then—
e = 7.087 in.
F = 50.6 in. = 4 ft. 2.6 in.
I = F/36.8.

(10) Let B = 19 in. Then—
e = 7.0417 in.
F = 52.8 in. = 4 ft. 4.8 in.
I = F/38.4.

(11) Let B = 20 in. Then—
e = 7 in.
F = 55 in. = 4 ft. 7 in.
I = F/40.

(12) Let B = 21 in. Then—
e = 6.9615 in.
F = 57.2 in. = 4 ft. 9.2 in.
I = F/41.6.

(13) Let B = 22 in. Then—
e = 6.9259 in.
F = 59.4 in. = 4 ft. 11.4 in.
I = F/43.2.

(14) Let B = 23 in. Then—
e = 6.8929 in.
F = 61.6 in. = 5 ft. 1.6 in.
I = F/44.8.

(15) Let B = 24 in. Then—
e = 6.8621 in.
F = 63.8 in = 5 ft. 3.8 in.
I = F/46.4.

(16) Let B = 25 in. Then—
e = 6.8333 in.
F = 66 in. = 5 ft. 6 in.
I = F/48.

(17) Let B = 26 in. Then—
e = 6.8065 in.
F = 68.2 in. = 5 ft. 8.2 in.
I = F/49.6.

(18) Let B = 27 in. Then—
e = 6.7813 in.
F = 70.4 in. = 5 ft. 10.4 in.
I = F/51.2.

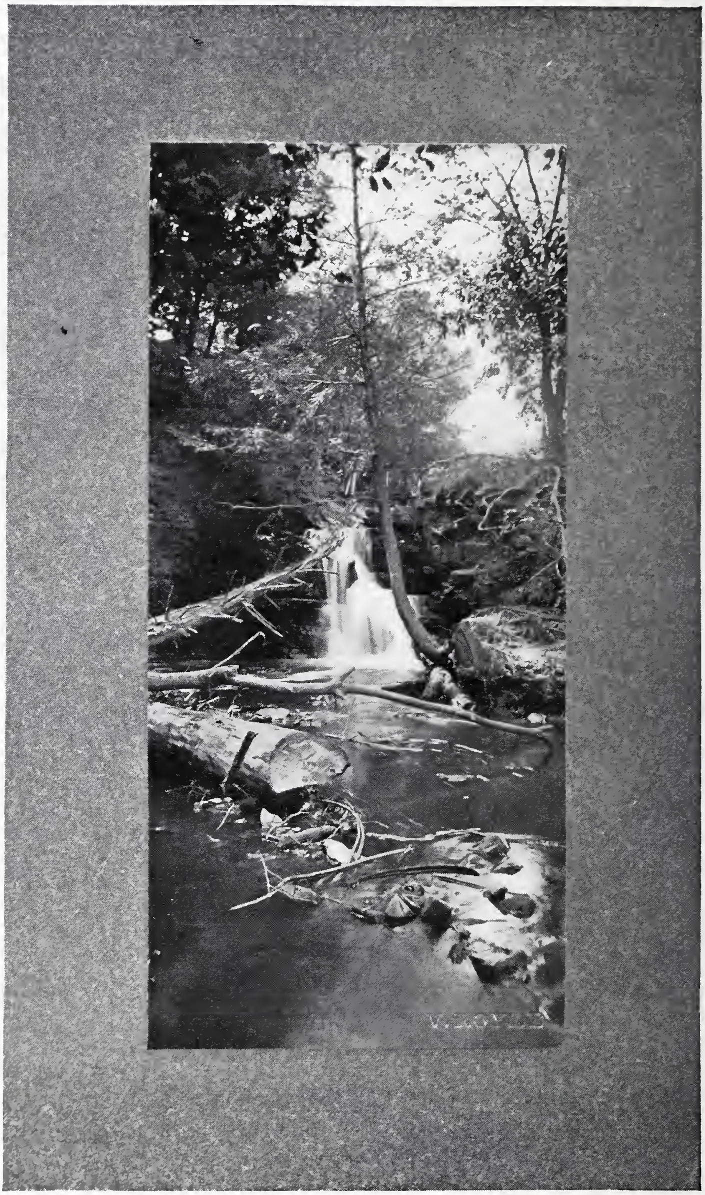
(19) Let B = 28 in. Then—
e = 6.7576 in.
F = 72.6 in. = 6 ft. 0.6 in.
I = F/52.8.

(20) Let B = 29 in. Then—
e = 6.7353 in.
F = 74.8 in. = 6 ft. 2.8 in.
I = F/54.4.

(21) Let B = 30 in. Then—
e = 6.7143 in.
F = 77 in. = 6 ft. 5 in.
I = F/56.

TEASING. By E. Nicolai.

CHILD WITH BOOK. By Carl C. Distler.



FALLS OF SOHO. By Vernon Royle.

PHOTOGRAPHIC CURIOSITIES.

BY GEORGE A. CARRUTHERS.

An article on a detailed description of the eccentricities of the common or garden variety of amateur photographer would require a special number of this magazine to itself. "Curiosities" his productions are in every sense of the word; although it is to be feared they drive their nomenclature more from accident than design. The gentleman who invests in a five dollar complete outfit, on the eve of starting for his seaside holidays, with little or no knowledge of the art beforehand, is one of our largest manufacturers of curios, and will show you as a veritable *chef d'ouvre* a street scene, in which tram cars and fishing vessels are artistically intermingled. What is it to him if he forgot to change his plate? they are gloriously cheap, and it is all for the fun of the thing. Yes, it is to gentlemen of this *genus* we must look to for the bulk of our freak photography. A little knowledge, the poet tells us, is a dangerous thing; but what knows he of danger? will he not rush in and snap, where his grandfather would hesitate to tread, and give a time exposure. What better game for his shooting than the still younger ones of his own family? or, perhaps, if he has one, his "best girl?"—it matters not if she comes out like a negress, with shoulder-of-mutton hands and No. 22 "tootsies." If the portrait isn't like her, it will pass for a creditable production of her Aunt Sarah, or, maybe, the family retriever. What knows or cares he for perspective? he wants "a jolly big head on the plate, don'tcher know," and he gets it, totally regardless of whether the victim's nose is more like the budding proboscis of an elephant or not.

Thanks to art schools and teaching the itinerant worker is turning out fewer of those pictorial atrocities, with which the albums of our grandmothers are so plentifully besprinkled, than he used to do; and we don't now see the gentlemen in his best Sunday clothes, standing with his legs crossed, leaning on a pillar, trying to look like Hamlet or George Washington—like anything but himself, in fact, and totally oblivious to the fact that his shadow is falling on the mountain in the background, which is supposed to be miles away.

The eccentricities resulting from hurriedly drying gelatine films before the fire are numberless, and grotesque enough to frequently find a place in our illustrated literature—stately buildings assume a form never dreamt of by their architect; landscapes suggest earthquakes or volcanic eruptions, and human faces spread out or lengthen in a manner that would assure the owner a permanent engagement among Barnum's freaks, if they were only real.

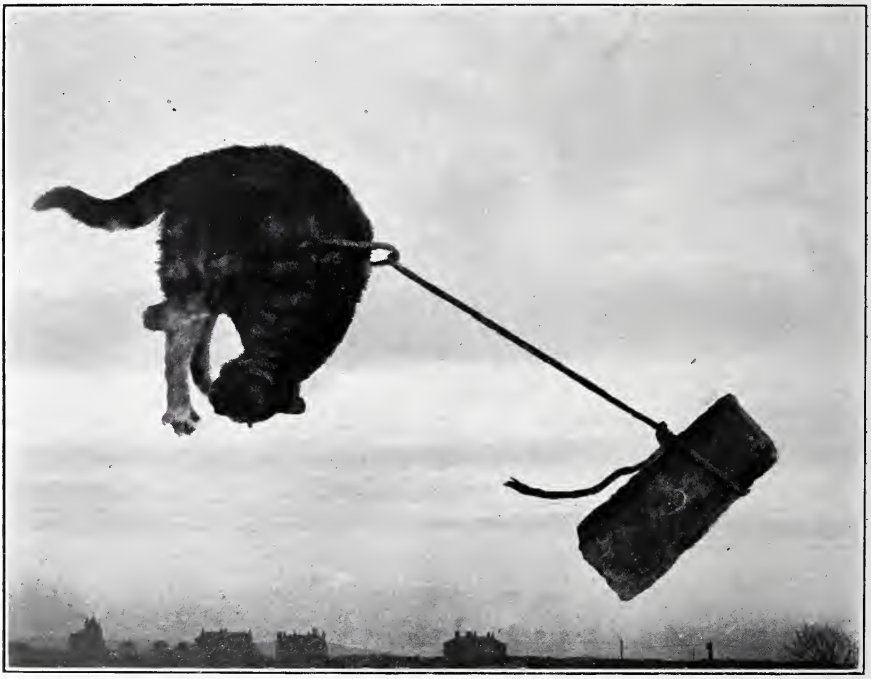
The writer well remembers photographing the chairman of a conversazione and making a hurried lantern slide, which, in its wet state, was put into the lantern and thrown on the sheet; the applause was all that could be desired; but, when it was seen that the region in the neighborhood of the gentleman's waistcoat was beginning jump about, it quickly changed to laughter; and when his face began to elongate, and, finally, run off the sheet, it grew uproarious, and was pronounced quite the best thing of the evening.

The production of the unexpected gives photography one of its greatest charms; if we all got gold-medal pictures each time the cap was taken off, how monotonous it would become; and we would long for something a little less perfect, and there certainly would be fewer photographic curiosities.

A few of those attributable to accident have been alluded to; a short explanation of the accompanying picture, and how it was done, may, therefore, not be out of place as an attempt at a deliberate curiosity.

Having taken half a dozen consecutive pictures, representative of the courtship between a cat and a canary, in which the latter meets an untimely end, it was necessary, as a tail-piece, to show one of pussy meeting her just reward, by being consigned to a watery grave, tied to a brick to assure the proper carrying out of the operation; to attempt to snap-shot such a picture was obviously impossible, and it is here where the "faking" came in.

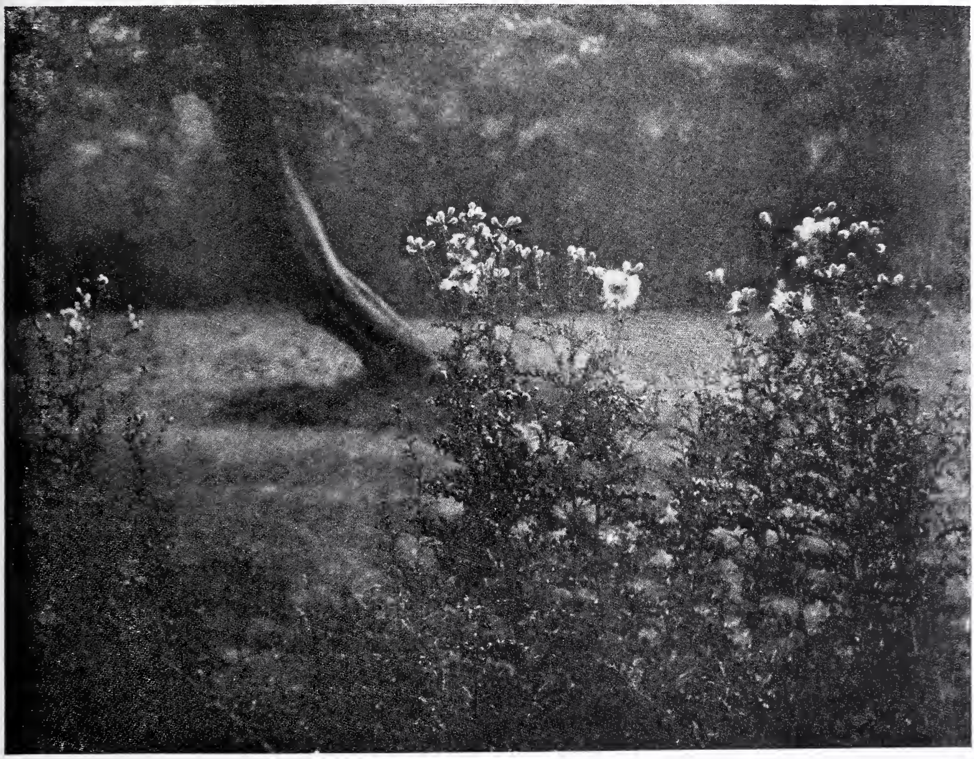
The picture was taken in an ordinary backyard, with the usual brick and mortar surroundings; a strong clothesline was made perfectly taught across, and, having comandered a brick, to it was attached some three yards of thin rope, and the brick, by a string not shown in the photograph, was tied to the clothesline; a loop, at the proper place, was then made on the rope, and the loose end attached further along the line; puss was now introduced on the scene, dropped into the loop, and, before she had time to realize where she was, the exposure was made.



Having now secured the negative, it was only a question of—with a fine sable brush and watercolor vermillion—to completely paint out everything, except the brick, cat and connecting piece of rope. A print from this, of course, gives a perfectly white ground; and it only remains to select a suitable sky negative, and print in the ordinary way.

It will at once strike the reader that the double printing would also show on the body of the cat and brick; this is obviated by painting these over on the print with thick Indian ink, which will do no harm, and is easily washed off before toning.

A lantern slide can be produced in a similar way, except that here the sky, which would cover the cat, must be removed with ferricynade of potassium.



"AMONG THE FIELDS, WILD FLOWERS ARE FAIR." By George Whitehouse.
1902 Salon, Royal P. S., London.

HALOS, ORIGINATED BY DIFFUSION OF LIGHT WITHIN THE DRY-PLATE FILM.

BY A. SÜSS.*

LINDSAY'S, as well as Ranyard's explanations of these halo-appearances, are, according to my experiments, not quite free from objection. The following experiments were all made in the dark-room, by contact prints with black paper masks. Direct exposures with an objective were intentionally avoided,—at least for these experiments. As light source, an ordinary enamel gas burner was used. Applied were several kinds of plates of different manufacture, but of good reputation; they showed, however, hardly any difference in their behavior towards halo formation. The thickness of the glass plates —which plays no important part, as has been generally accepted—was determined by the millimeter measure, and for the comparative tests all were of equal thickness. All plates were highly sensitive, and the manipulations were made with the utmost care. Particular consideration was given to Meydenbauser's stand (slow) developing method with edinol-Bayer. As time (tray) developer served the well-known metol-hydrochinone developer after Dr. Stolze, and finally amidol (Hauff), which was least suitable for this purpose. After many tests, and all possible difficulties, the writer came to the following results:

The halos in general, and the so-called over-radiation in particular, originate less by optical reflexion and specular gloss on the reversed (glass) side of the dry plates, respectively the celluloid films, but are to be considered as the after-action of the actinic-light quantities within the films themselves. Eder knew this action already, but called it, however, molecular dispersion... Reflecting glasses and films play here, of course, also a great part, but they are by no means the sole originators of the reflections, halos, over-radiations and irradiations. The following deserves consideration:

1. Even the thinnest film shows halos just as distinct as the thickest dry plate.

2. It is indifferent whether the exposure takes place from the film or glass side.

3. The theory of halo protection is not fully correct, and the question has not been solved yet for practical purposes, and still less theoretically, to expose from the glass side.

4. Cornu's theme: "The halo is developed on the reverse side of the glass plates, by the total reflection of the light diffused by the emulsion," is only a part of the explanation.

5. At the exposure through the glass side the halo is, strange to say, greater, and of other shape, than at normal exposure (through the film).

6. The light energy of the halo is considerably stronger, as was presumed so far. If an exposure is made, for instance, through five dry plates or films, pressed tightly together, all five show distinct halos—the upper one, of course, more distinct.

7. If exposed through the glass side upon the film, which was prepared with antisol or aurin collodion, no halo, or a very smooth one, should originate, according to our present theories.

8. Exact experiments have taught the contrary. The reduction of halo had taken place in this way.

9. If a mirror, or a similar strongly reflecting medium, was placed upon the glass side of the dry plate, no increase

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* Translated by Henry Dietrich.

of the halo, worth mentioning, contrary to our supposition.

10. Bromide of silver paper, however, even such which had been made transparent with oil before exposure, showed even at a relatively tenfold over-exposure, not the slight halo appearance.

11. This circumstance caused the writer to the following opinion: A very important argument at the formation —still unexplained appearance — of these abnormities, is in the binding means, or, more exact, in the different adhesions of the film, and the glass on the one side, and the inner surface of the bromide of silver gelatine film, and the accepted bridge between this film and the picture carrier (glass, alkaloid, paper, etc.) on the other side.

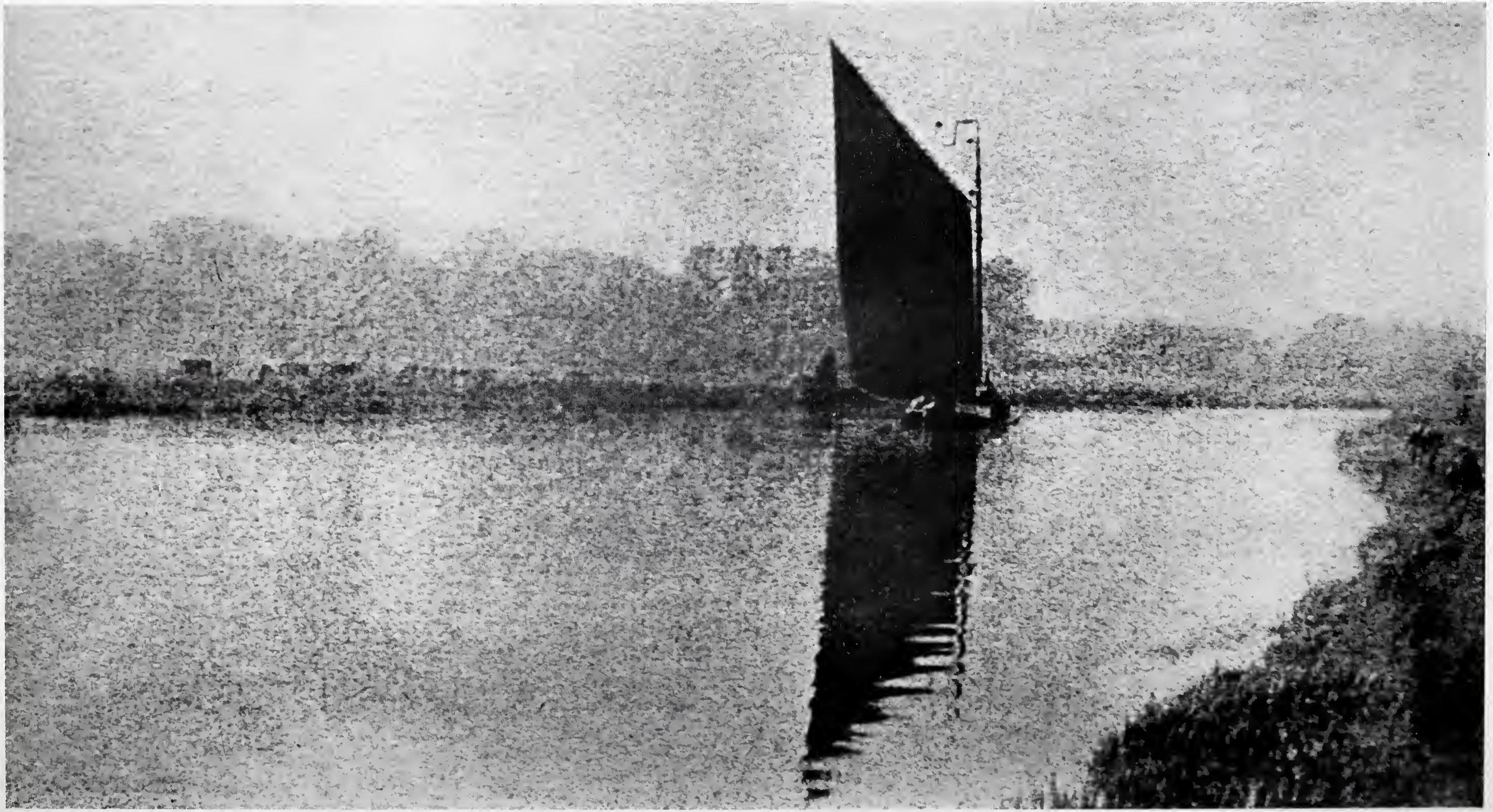
12. A moderate influence upon the formation of halos exercises finally the applied developing method, and the slow development is the only method which lessens or moderates the halos somewhat.

Very handsomely marked halos, with totally solarized negatives, which, in spite of a thousand times longer exposure, could not be distinguished from ordinary halos, appeared even with the protected plates and thin films.

OW EBB.

J. C. S. Mummery.

1902 Salon, Royal P. S., London.



A NORFOLK WHERRY. By John H. Anderson.

CLEARING HIGH LIGHTS IN LANTERN SLIDES AND SILVER PAPERS.

FOR a number of years the red prussiate of potash, or ferricyanide of potash, has been used as a reducer for negatives and lantern slides.

It is so easy to manipulate, that, at the present time, it is the most generally used reducer by a large class of amateurs.

It is not the province of this article to advocate the use of a reducer in general, but to show a few cases where it is of great value. Ferricyanide of potash will dissolve reduced silver in the negative, lantern slide, bromide paper and silver paper. It has been found to be best to reduce directly after the plate has been fixed, and while it is still saturated with hypo, without even a preliminary rinse in water. Use a bath of:

Water..................	18 ozs.
Ferricyanide of potash..	Size of a pea.

Since it is not always known, at this time, whether reduction is necessary or not, a formula is given for reducing a plate which has been well washed and dried:

Regular hypo bath......	24 ozs.
Prussiate of potash.....	Size of a pea.

Soak the plate in water before placing in the bath. In any case, the plate should be removed from reducing-bath before it is sufficietly reduced, for the action of the prussiate continues for some time after being placed in water to wash. Wash for thirty minutes in running water.

Almost everyone has a weak negative from which a strong, clear print simply *cannot* be made. It is often necessary to make a print; and it is to aid those persons who must get a print, be it good or bad, that this article is principally intended.

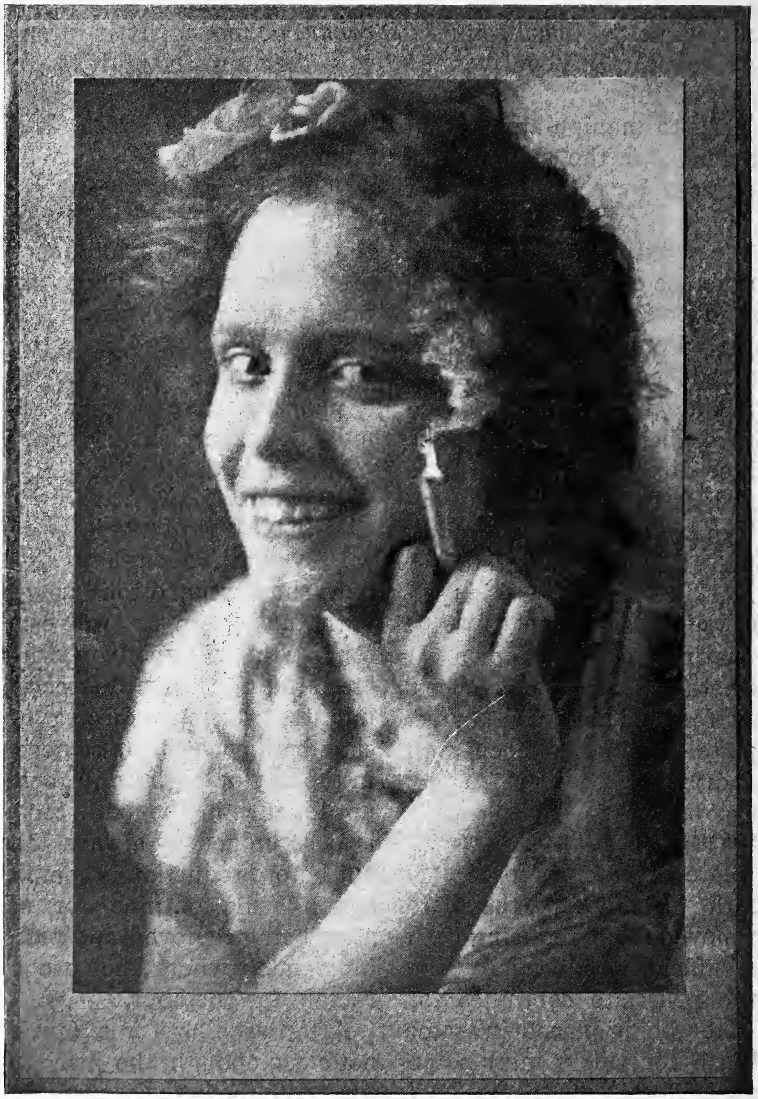
The method of clearing the high lights is the one adopted here. Sometimes negatives are not made until long after the subject photographed has been removed or destroyed, and cannot be made again; and, despite all efforts to duplicate and guard against failure a poor negative results, but a print must be made just the same.

Make a bath of:

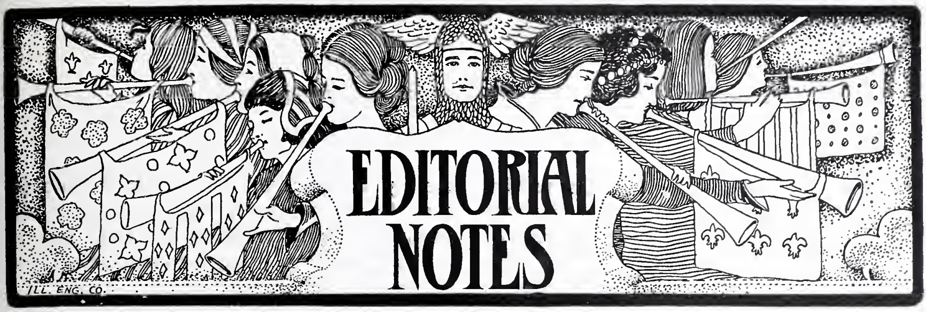
Water	24 ozs.
Red prussiate of potash.	Size of a pea.

Print dark enough to secure fairly dark shadows, and tone in a slow, gold bath, taking ten or twelve minutes to tone. Fix in hypo bath, with hydrometer reading twelve degrees, for fifteen minutes. Remove directly to the prussiate bath such prints as need reducing in the sky or high lights, being careful not to leave in the bath too long; this is best judged by always taking them out before reduction is complete, as the action will continue for some time after being removed, and placed in running water, where they are allowed to remain for one hour.

After washing for a few minutes, if not clear enough, the print may be returned to the bath for further reduction.



GIRL WITH CIGARETTE. By Frank E. Marks.



EDITORIAL NOTES

A number of the papers are running a story about a woman with X-ray eyes that can see through solid objects. Nothing new in that. We have often heard women say they could see through any man.

* * *

Through some unaccountable error the illustration on page 33 of the January Times-Bulletin was credited to Miss Mathilde Weil instead of C. Yarnall Abbott, and we are pleased to make this correction in justice to both Miss Weil and Mr. Abbott.

* * *

Mr. Alfred Stieglitz in introducing *Camera Work* makes an "apology," in part as follows:

"The time appearing ripe for the publication of an independent American photographic magazine devoted largely to the interests of pictorial photography, *Camera Work* makes its appearance as the logical outcome of the evolution of the photographic art."

It is utterly impossible to compare this publication with any other devoted to photography, as it stands absolutely alone in beauty, dignity and force.

There are many who differ in opinion regarding photographic technique and the relation of photography to art, but it is a foregone conclusion that all will agree as to the great educational value of *Camera Work*.

* * *

In the face of the fact that every week many applications for patents on photographic appliances are filed, there still remains a vast and golden field for the inventive genius. Just look around your own studio and think of the many inconveniences you have to put up with.

What a fortune awaits the man discovering a practical process for photography in natural colors. How many improvements could be made in printing frames—something doing away with the clumsy brass spring, one end of which always flies up when you don't want it to; how many times when adjusting this spring have you had a neat little bit taken from your finger by having it caught between the spring and the catch.

Honors galore await the man inventing an appliance showing the position of the subject on the ground glass to the operator when away from the camera, and allowing him to make the exposure at just the right moment.

Think of the blessings showered upon the individual devising a baby charmer that would infallibly produce the smile baby *always* has at home. Another device much needed is one that would keep the superfluous friends and relatives out of the operating room. Invent this, dear sir, and the fraternity will arise as one man, and call you blessed. Don't bother so much about the amateur, he has lots of fun inventing things for himself, but do please help out the professional whose mind is fully occupied in inventing ways to pay the rent and coal bills.

THE CORRECTION OF DISTORTION.

BY J. TUDOR CUNDALL, B.SC. (LOND.).

AT a recent exhibition of the lantern slides of the members of a not unknown society, I was struck by the number of pictures that were distorted—*i. e.*, appeared in a form on the screen that the objects photographed do not show naturally. This defect appears to be on the increase, and seems to be partly due to the greater use of the hand-camera, which, though possessing the great advantages of portability and power of taking advantage of those momentary opportunities of making or losing a picture, has the disadvantage that it is not always easy to hold horizontally, and is usually equipped with a rather short focus lens.

If the user of a hand-camera holds it in the usual position and *horizontal*, which is by no means easy, even with a spirit-level besides the finder, he gets an image in which there is usually an excess of foreground, whilst high objects and the sky are either absent or crowded up to the top of the picture. This defect can be considerably reduced by holding the camera at high level and using a direct vision-finder, which has the advantage of giving a more natural view of near objects, but does not go far enough unless one elevates oneself to the level of a first-floor window, which is not always possible ; and then, though the foreground difficulty disappears, the picture is from an unusual point of view—*e. g.*, one sees the top of a man's hat instead of his face.

In a stand-camera the trouble is remedied by the rising front by which the lens is raised with regard to the plate ; but few hand-cameras possess this adjustment, and in most cases are better without it, as the less complicated they are the more likely are they to be used advantageously, as their use is less deliberate than that of the stand-camera. Again, with the rising front, the lens must be stopped down, or able to cover a larger plate than that ordinarily used, or loss of definition, even cutting off of the corner of the picture, will result.

If the photographer, so to speak, seizes the bull by the horns, and points his camera up, so that the object he wishes to take composes satisfactorily, he discovers, though probably not till he has developed his plate, as the usual finder is too small to show it, that the vertical lines of his picture appear to be tumbling in toward the center. The reason of this is that the rays of light from the bottom of the object have to travel proportionately farther after passing the lens than those from the top, and so diverge wider, giving a conical shape to an otherwise parallel-sided object.

This is got over in the stand-camera by the swingback, by which, whatever the position of the lens, the plate is kept vertical, and thus parallel to vertical objects, so that the triangles formed by the converging lines from the object to the lens are similar to those from the lens to the picture, and hence distances between points, or any part of the plate, are strictly proportional to distances between the same points on the object.

At the same time, however, to effect this the top of the plate has to be brought much nearer to the lens than probably the depth of focus of the latter will allow ; refocussing becomes necessary ; probably also stopping down to get reasonable sharpness. This refocussing practically puts the swingback out of the question for all scale-set hand-cameras, even if the stopping down did not make exposure too long for hand support.

From these considerations distortions caused by the inclined plates must always be a difficulty to the hand-camera worker with subjects containing vertical lines, unless some other method of coping with the evil is available. This is fortunately the case, though the panacea about to be described does not seem to be much used.

It is well known that if the distorted image is projected on a suitably *inclined* screen, the rays of light from the portions of the image that are too close together will have further to travel, and so diverge wider than those from the parts that are too wide apart, thus making the distorted vertical lines once more parallel. The same result is of course obtained by inclining the negative instead of the screen. The difficulty, however, of getting focus all over with this method of correction is the same as with the swingback in the taking-camera, but a small stop may be used, as any required time of exposure can be given. Even this trouble can be avoided, greater distortions corrected, and sharper focus obtained by *inclining the screen as well as the negative*, but in opposite directions. The inclination in either case need only be the half of what was formerly required, and the image will be sharp all over, even with large aperture, as may be seen from the following consideration.

Imagine the distorted imagine placed with its converging lines downward, and let the top of the negative be inclined away from the lens. Incline the top of the screen also away from the lens. Then the near end of the converging lines, being closer to the lens, will not only subtend a greater angle than the same length at the farther away part of the plate, but will also be represented farther apart on the screen, as they have to travel farther beyond the lens. Besides this, the rays coming from the less distance will be brought to a focus farther off than those coming from the more distant parts of the negative which come to a focus nearer. Now this is just how the screen is inclined, and so correction is achieved without loss of definition, even with a large stop in the lens.

Enlarging cameras are not as a rule fitted with swings at both ends; but these can be arranged, with a little ingenuity, with the gain that the photographer can set out with an instrument untrammelled with complications, and with the knowledge that he can incline his plate as much as he pleases, and yet get a lantern slide or picture of any dimensions free from distortion.

Added to this he can reduce to a great extent that form of distortion or unpleasant perspective, inherent in the lenses of short focus used close to the object pbotographed, for he can expand one end of his picture with regard to the other, and thus produce a more pleasing or pictorial effect. Improvement in this latter respect is only practicable where the near objects are at one side or end of the plate and distant at the other, and show to a marked extent if they are some distance apart on the plate. If the near object is central, though the picture might be improved by looking at its reflection in a curved mirror, its permanent correction by photography would be too troublesome to be practicable. As regards those kinds of distortions due to the imperfections of lenses, it is possible to correct them by methods adapted to the particular defect, *provided that the material is present in the photograph.* Thus, whilst barrel or cushion-shaped distortion can be amended in the enlarging camera, by using the lens in fault and reversing the position of the stop, when the cushion-shaped picture will be distorted barrel-wise into rectilinearity and *vice versa;* on the other hand, faults in lens or manipulation producing blurring cannot be afterward corrected. Finally, if the photographer, or, indeed, anyone, will but consider the causes that have led to his failures, he will be far farther on the road to avoiding them in future than if he seeks other people's advice or tries to remedy them haphazard.—(*Read before the last general meeting of the Edingburgh Photographic Society.*)—*Photographic News.*

"WHAT DOES BABY SEE?" Mary R. Stanley.

ALCOHOL AS DRYING MEDIUM IN THE CARBON PROCESS.

BY RICHARD BLOCHMANN.*

THE application of alcohol for drying of objects which have become moistened by water, has been known for a long while. It is based upon the fact, that the alcohol mixes with the water in all conditions, and this experience has also been made use of for the rapid drying of photographic dry plates.

The plate is bathed in alcohol, which mixes uniformly with the small quantity of water contained in the gelatine film, and when the plate is taken from the tray, only a very small fraction of water will be left in the film, and this evaporates rapidly.

For the same reason alcohol was recommended for application in the carbon process, the preceding sensitizing of the paper and subsequent drying of sometimes several hours' duration being very inconvenient to many amateurs. They even might be prevented from work on the following day, when the paper is at last ready for use. These disadvantages cannot be denied. At another time the amateur might have half a day at his disposal, but--no paper has been sensitized.

The application of alcohol as drying medium in the carbon process deserves, therefore, particular recommendation. The operator will be enabled to produce a ready sensitized paper in one to two hours. For those who are not familiar with the carbon process, I will mention, that a gelatine film is coated with bichromate of potassium or bichromate of ammonium, and that after drying the exposed parts of the plate will become insoluble hereby. In a moist condition the sensitiveness of the film is considerably reduced. In sensitizing the gelatine, the principal requirement is to effect the drying in the least possible time.

Here, now, is the advantage of alcohol: The danger of too slow drying is excluded, and the paper so treated will work clear. The paper, sensitized with bichromate of potassium or ammonium, dries rapidly in any closet, and requires no dark-room or particular heat in winter. Another advantage of this process is, that the alcohol, after bathing of the paper, and mostly already before, contains a certain quantity of water. It is this aqueous spirits of wine which, after taking the sensitized paper from the bath and squeegeeing the same, is still in the gelatine film. It evaporates quick on the surface of the paper, the gelatin contracts on its outer surface and prevents the liquid, still in the inner part of the film, to likewise evaporate quickly. Thus two film layers will form on the paper support, a moist one near the paper, and an upper dry one being nearest to the light source at exposure. Referring, now, to the above sentence of the light sensitiveness of gelatine treated with bichromate, we will comprehend, that the moist intermediate film layer has not lost its solubility on no part after exposure, and that the printing process has only taken place in the dry film. This circumstance is eminently observable in the second part of the carbon process. Here the gelatine film is to be transferred from its preliminary support with its outer side upon a stationary support (paper, glass, porcelain), which is done by soaking the printed paper in cold water, squeegeeing it with the film upon the support, and leaving it that way for some time under a moderate pressure. Now, after soaking of the still adhering paper in warm water of about 40 degrees, the preliminary support of the gelatine can easily be stripped.

My experience with a great number of parallel experiments is, that the paper dried with alcohol—evidently in consequence of the moist insensible intermediate film layer—can be stripped with much greater facility, as was the case by slow drying, and that the picture can be developed with a much cooler water, as ordinarily.

The formation of air bubbles is hereby avoided. Particularly for large sizes this is of great advantage. The moist intermediate film layer—which forms temporarily during the drying of carbon paper with alcohol—prevents also the paper from drying so brittle, that a good pressure is necessary in the printing frame to produce sharp prints, and it remains flexible and joins closely to the negative.

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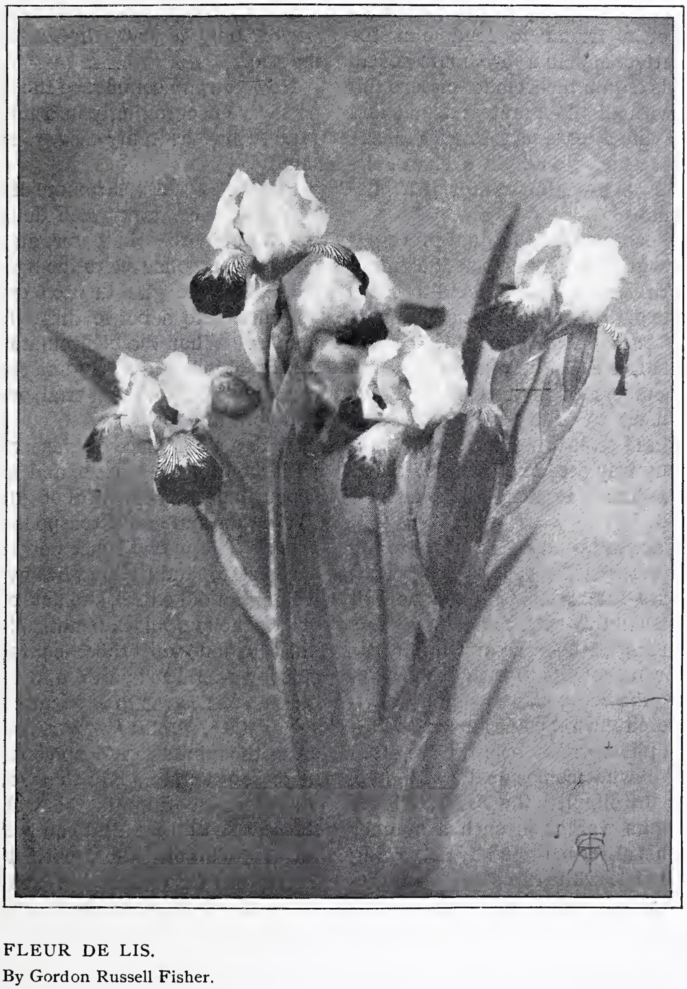
* Translated by Henry Dietrich.



FLEUR DE LIS.
By Gordon Russell Fisher.

GUM-BICHROMATE MADE EASY.

BY W. W. M. M.

ONE or two of the articles which have appeared in my after-lunch paper on Thursdays (I need not mention the name of the paper) have given me the idea that the methods laid down for beginners are apparently so very simple that anyone who knows nothing of photography absolutely can get a friend to lend him the necessary negative, and in a few hours he can show his friends a gum-bichromate picture full of gradation, with all the minutest details and all chiaroscuro values, or a picture with all the broadest effects which would put to shame the works of a Moss or a—a—an editor of a photographic journal.

When first I commenced the gum process I was foolish enough to lay in a stock of all manners of new *plant*, which only added to extra confusion in the bath-room, the attic, and now and again the back drawing-room if the sun was west; and after P.O.P. toning, etc., I was informed by members of my household I was only adding insult to injury. I heeded not, but stuck at it, and on looking back I can without being in any way presumptuous see many pitfalls for a beginner in some of the articles already written.

The pitfalls are in no way derogatory to the author of the contributions; it is the "what comes next" that puzzles the beginner, as well as the "when shall the next come," and this part is often skipped over, so much like the dear old 5th prop., so easy to read, so easy to grasp, yet close the book, and how many of us have not wondered "what comes next?" With many books on photography open we are often led to wonder "what comes next." Might I then endeavor to simplify the *first* trials for the would-be gum worker in such a manner tnat, after all, his sister or friend by borrowing a negative for a little while *can* show a gum result—I won't say picture, that comes later on in another "next."

From your local chemist get 2 oz. of bichromate of potass. and 2 oz. best Soudan gum. When he has given the latter to you, in a knowing way say, "It *is* the best Soudan, Mr. So-and-So." It looks as if you know something, and he might be keeping inferior stuff for *beginners*.

From the oilman get a ½d. packet of lampblack, nothing more, only treat him politely, as his profit is not much in a transaction of this magnitude.

From the stationer get two flat paint brushes, one about 1 inch wide, the other about 2 inches wide; get the cheap ones, and as soft as you can. The better ones will do later, say, for the next Photographic Salon; we must in gum bichromate walk before we run.

The marketings are all complete, and the pocket only a trifle lighter than when you started.

Now you can commence the new process, or, as I was encouragingly informed, add insult to injury; but, as in my case, go ahead and never mind.

Put the 2 oz. or bichromate of potass. into one of those 20-oz. dark-green developing bottles, and fill up with cold water, and remember bichromate is sensitive to the light when it dries.

Dissolve the gum in 5 to 6 oz. of cold water, and filter into a bottle through a fine piece of muslin. When the bichromate is all or nearly all dissolved, and the gum strained, you can commence on your first trial, which *should* give you your first print.

Take a clean piece of glass, and old negative with the film off will do, and on the middle of it pour half a teaspoonful of gum solution. On to the gum put half a teaspoonful of the lampblack. These two must now be mixed into a syrup state, and nothing has ever served me so well as an old chisel, the flat part of the edge grinds the lampblack beautifully. The mixing must be done until there is no grit heard as the chisel works backwards and forwards on the glass. As soon as the mixture is in a complete syrup state, *without any grit whatever*, pour on to the mixture a teaspoonful of the bichromate solution, and mix this well, and then another teaspoonful, mix this well; by this time the glass will have all it can hold.

Get any bit of white paper, without any shine on it—the note-paper called vellum wove will do—and put it on a piece of blotting-paper larger than the piece you are sensitizing, and with the small brush paint the paper with the mixture. It will at once look a sort of yellow and dark-brown. Now take your larger brush and gently go over the paper, taking care to do it lengthways, and then across. Lines, oh! those lines! will appear as you go one way; turn the paper, and go the other, until the paper looks much lighter, and with the color even, not patchy. This, to my mind, was the most irritating part of the process; these lines will come, but a gentle jerky movement will take them away, anyhow it can be done easily after one or two trials. Do a few sheets, and put them away to dry where no white light, grit, or fluff can get at them. You can now inform your friends you have added insult to injury, and made your own sensitized paper, and the only mess is on the glass. When the paper is *perfectly* dry, put it in the printing frame as you do with P.O.P., and print for about as long as you would for this latter paper (an actinometer will do later on). Take the paper out of the frame, and put it face downwards in your bath or basin with about 2 inches of water beneath it all round. Then leave it, go out, go anywhere, as the temptation to see what is under that blacky-brown stuff is at this point very great, and you will want to assist the pigment off, generally with a sponge; anyhow, leave the paper for some time, say, twenty minutes, at the end of which time you may satisfy your curiosity, turn the paper by a corner, and the chances are you will see some of the parts of the positive. Don't begin "splashing it gently," as is so often advised at this stage; put it in again, face down, and leave it another twenty minutes, when you will find much more of the result is visible. Now you can just it very gently, and you will behold your first result. Dry it, and keep it, and write as I did on the back "first result" and the date. Make that "first" as far as you are able your standard forever afterwards step by step. It is your best effort now, it must be your second best next time, and so on.

Let that smudgy little thing, which it must almost to a certainty be, as you only guessed at the exposure, etc., be as far as you can your actinometer for the second attempt, and let your second attempt be your actinometer for the third, etc., until the time comes when you think you must have that, to me, irksome light-gauge.

Here I must close, and in conclusion I hope that some latitude may be allowed me if the foregoing be read by any old "gum" workers, as, knowing the difficulties for anyone commencing this most beautiful process, I have only done my humble best, not "to teach my grandmother to suck eggs," but to assist those who are desirous of doing "gum-bichromate" work, and who in commencing their first coating, etc., like a good many others do not know "what comes next" and "when the next comes."—*Amateur Photographer.*

"FAST FALLS THE EVENTIDE." By F. E. Marks.

THE THREE COLOR PRINTING PROCESS IN THEORY AND PRACTICE.

BY DR. J. HUSNIK.*

If we look through the photographic journals of the present day, we find numerous articles about the three color printing. New sensitizers are recommended, spectroscopically tested filters are placed in market, working methods with gelatine or collodion emulsion plates described, and those who are looking for a guide to good results, generally look in vain, because, without any theoretical knowledge and the fundamental scientific principles of the process, a knowledge of causes and actions, it cannot be successfully executed. Even the operator of many years' experience has to battle sometimes with failures.

It is my intention, to make some remarks in this article about the application of different filters, which are generally recommended for theoretical reasons, but which I consider as superfluous according to my experience. The orange filter for the blue print has to be used, because the best sensitizer for red (and I consider cyanin as the only applicable color-matter) is still not yet sufficiently red—and too much blue--sensitive. By means of orange filters we have too exclude entirely the blue action, and let red and yellow act stronger. The stronger the filter, the better the result. We can go so far, as the light conditions will permit us to do. But with the green filter it is different. The same is applied under the correct supposition, that the red action had to be excluded, and the yellow, blue and green rays had to be given time for sufficient action. But as red is inactive upon a plate prepared with Eosin silver, only the second reason would remain, and here I have to call attention to a peculiar appearance, which has not been explained yet. Analogous to the use of an orange filter we would come to the conclusion, that the green filter helps likewise, to support the action of the yellow, blue and green rays. But this is by far not the case. While by application of a strong orange filter deep red tones will also act almost like white, green tones, by using a green filter, no matter how strong, and as they result by a combination of the yellow and blue normal printing color, will appear almost black. Light green tones appear also correct without a filter; for what purpose is it therefore used? And here is also the circumstance to be considered, that every green filter absorbs either a little yellow or blue; and these tones will then appear less correct, as without filter. The exposure is also prolonged by using a filter.

This refers particularly to body colors, less to spectral ones, but we have to deal only with the former. The red exposure is generally incorrect and requires a thorough correction. This can be done mechanically by retouching, but as that has to be avoided as much as possible, the correction of the red part negative is made photographically in some establishments.

The exposure for the yellow plate with uncolored collodion emulsion or by the wet process gives the same results with or without filter. Both are, so to say, defective. In the pure red we always obtain a little more yellow than necessary, and those yellow tones, which are obtained by a mixture of yellow and white color matter media act always much stronger, as it should be the case. This exposure requires therefore always a little retouching, whether produced with or without filter. The use of a filter is therefore unnecessary. The blue plate, if produced with a good collodion emulsion, sensitized with cyanin, and with correct selection of the filter, is without fault and requires no retouching. Dry plates are not very applicable, because their red sensitiveness (of those bought in market) is a minimal one. Ordinary plates, sensitized specially for the purpose with cyanin and to be used at once, are more sensitive, but do not work securely, as formation of fog is difficult to avoid. Different it is with the red exposure; the Eosin dry plates, bought in market, give mostly good results, that is, not worse than collodion emulsion colored with Eosin silver. But the red negative, as already mentioned, is never fully correct. For the yellow exposure a gelatine dry plate is less suitable, because the insensibility for yellow is not complete, and the application of a violet filter is here advisable. If, however, the decomposed negatives for the three color print are to be made on so called panchromatic plates, strong filters, of course, have to be used for all exposures, to obtain at least moderate results. But I would not recommend this way of working, because the whole method will thereby become more complicated and the time of exposure prolonged.

Now, after we have the negatives for the three colors, the question is, what reproduction method is to be applied. For the three color lichtdruck nothing would be required any more, but to make prints from the negatives and prepare for printing, but as no retouching can be done on the prints, even in the lichtdruck process, a thorough correction of the red negative is necessary. Different it is in the autotype process. The operator can remedy here a great deal by way of correction, which has to be done after the first print is made. But if the negatives are already correct, particularly when the red negative was already corrected by retouching or photographically, the first print, if produced in correct strength, may be so good that only that which was spoilt by the autotype itself (and which happens to black views just as well) has to be improved ; the lights have to be brightened by etching. I have had cases, where not a line of etching was required after the first print ; but you can never tell for certain that you have been getting the correct exposure and right strength of the print.

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* Translated by Henry Dietrich.

The best results, I should think, can be accomplished by the Helio engraving process, although no heliographic three color print has met my eyes yet. The reason may perhaps be, that for this kind of reproduction a fourth black plate is applied, to save the costly retouching, which is always necessary. The great advantage of Helio engraving is that there is no necessity to use a lined screen negative, and the uniform prints in comparison with lichtdruck, provided the proper care is taken. With the lichtdruck this is unfortunately not the case; after every print the plate has less water and the consequence is that the print becomes darker after a while. For this reason the plate has always to be moistened again after perhaps fifty prints are made. This is the reason that the lichtdruck is accompanied with great difficulties for the three color printing process.

STRANDED. By Chas. E. Wanless.

GLEANINGS FROM GERMANY.

BY HENRY DIETRICH.

The latest novelties on the market are tone-fixing-sheets. They give for each print just a sufficient quantity of fresh tone-fixing-bath, which, after use, is thrown away. These sheets consist of heavy blotting-paper, and are prepared with the ingredients for the tone-fixing-bath, including the necessary quantity of chloride of gold in concentrated solution. For use, put a sheet of same size as the print to be toned into a tray, and pour water of at least 20° C. over the same; just enough to cover it. Now put the print into the tray, occasionally rocking it. The picture first becomes brown, and then begins to tone slowly. After fifteen minutes the tone is a warm brown; after thirty minutes a purple brown, with a bluish shade during drying. A second picture can be toned in the same bath. The strength of the picture is not much attacked by the bath; over-printing is not required. The paper fibre keeps all contamination from the picture, and a clear picture is obtained. The size of the picture gives the quantity of the tone-fixing medium to be used.

Dr. Grohmann has made comparative tests between Bayer's new reducer and the well-known ammonium persulphate reducer. Both reducers, in 4 per cent. solutions, were left to act at equal temperatures, in equal quantities, and equal duration of time, upon fresh, several days old, and other negatives. The plates were cut into three parts—one part for the ammonium-persulphate reducer, the other part for the Bayer reducer, and the third part remained, for comparison, without treatment. The results of the tests were that the visble action of the Bayer reducer commences at the same time as that of the ammonium-persulphate reducer, but it progresses then much quicker and more energetic. Particularly the lights are attacked with strength, and a greater and more harmonious reduction is obtained with the same, than with the ammonium-persulphate reducer in the same space of time. Three to five minutes—according to the age of the negative—were sufficient to obtain a satisfactory reduction.

New Gum-printing Process.—For this process, originating from E. Weingartner, a well-glued fore-prepared paper, similar to the gum-print paper, is required. To sensitize the same, the following two solutions are prepared:

A.

Bichromate of potassium or soda....	20 grs.
Sulphate oxydul of manganese	20 grs.
Water..............................	100 c.cm.

B.

Concentrated (saturated) solution of gum-arabic........................	40 grs
Water	100 c.cm.

Equal parts are mixed of both solutions, and the paper is coated with the same. When dry, print under a negative until a distinct picture in all its details appears. Then wash until the lights have lost the yellow color and become purely white. The pictures fixed in this way may be differently colored. Weingartner immerses them in a solution of muriatic aniline, and leaves them in the same until they have obtained the desired strength. First, they become light-green, and then dark-green to black. During drying the color changes to a handsome blue-black. The strength of the aniline solution is according to the strength desired. The weaker the solution, the more delicate the picture will be. By the addition of a soluble copper salt to the aniline solution—for instance, chloride of copper—the strength of the picture increases.

The carbon process is preferably used for the production of transparencies upon glass, and also negatives. Care must be taken that the paper is not too old, and possesses sufficient solubility. To make sure of this, moisten a small piece of the paper and press it between the fingers. If it sticks, it is all right. Plenty of printing time must be given, and the exposed paper should be flowed with plain collodion before developing, to preserve all of the delicate half-tones. For this purpose bend the edges of the paper pretty sharply, so as to form a tray. The glass plates, upon which the picture is to be transferred, must be put in diluted sulphuric acid over night, and well washed and dried afterward. They are then provided with a support, to which the picture adheres during development. Dissolve for this purpose 10 grs. gelatine in 240 c.cm. of water, and add, after it has dissolved, 1 gr. bichromate of potassium. The plates are flowed with this solution, and dried in daylight. By the action of the same upon chrome gelatine, this is changed in such a way, that it loses its solubility in warm water during development. The transfer of the printed carbon paper, soaked in cold water, and the further development, proceed in exactly the same way as the ordinary carbon process.

Direct Positives upon Paper in the Camera.—There are several processes by which direct positives, and also negatives from negatives, can be obtained in the camera; but none of these processes give satisfactory results. A. Lacour publishes a paper about this subject, showing that he has apparently succeeded in producing direct positives in the camera. The same process, of course, can also be applied for negatives. Lacour has selected for this purpose principally bromide of silver paper, but he says that dry plates can also be used. The *modus operandi* is the following: 1. Development without fixing; 2. Exposure of the developed picture to daylight; 3. Solution of the silver reduced by the developer; 4. New development; 5, Fixing. The developer to be used should not require any carbonate alkali addition, but only sulphite of soda. because this developer enables with more facility the development of the first picture through the paper or the plate. Such a developer is diamidophenol. Lacour uses this with a 5 per cent. solution of sulphite of soda. The development has to be continued until full penetration through the paper takes place. Then wash and expose the picture in the tray to daylight. Let the same act, until the previously white parts have taken a gray-violet color. The picture is now well washed in the dark-room, and the silver is decomposed. This is done by a 2 per cent. solution of chrome acid in water. By this treatment the silver is changed to chromate of silver. It takes about twenty to thirty seconds. Now wash four or five times in fresh water, and develop for the second time—also with diamidophenol. By the action of the sulphite of soda the chromate of silver dissolves. and the bromide of silver parts, changed in the second development, are reduced to silver—thereby the original negative will become a positive. Lacour recommends principally a developer without carbonate alkali, because the latter retards the action of the sulphite of soda upon the chromate of silver. When the second development is finished, wash again well, and fix in the ordinary fixing-bath. If the lights should be a little cloudy, they can be cleared by a solution of 1 part of red prusiate of potassium in 1,000 parts of water. This process differs from the ordinary process of reversing the picture, that only chrome acid is used here, while, by the old method, a solution of bichromate of potassium, mixed with nitric acid, is applied; further, that the chromate oxide of silver is dissolved simultaneously with the second development.

If this process will furnish actually the good results, as represented by Lacour, an extreme simplification in the production of large negatives would have been obtained, because they could be taken directly upon paper.

In some of the French and German journals the old printing process with lead salts is revived again. This interesting process consists in the following: Plain paper, prepared with starch. is floated for five minutes in the following solution:

Acetate of lead	150 grs.
Acetic acid	2.5 c.cm.
Water	450 grs.

After the paper is dry, it is sensitized with a 3 per cent. iodide of potassium solution. Yellow lead iodide will form hereby. If such paper is exposed under a negative, a green picture on a yellow ground will originate. The fixing takes place in a saturated ammonia solution. The print remains in the bath until the yellow ground has disappeared, and the picture appears in blue-violet color. Finally, wash for half an hour in running water.

To reduce parts of a negative, alcohol is generally applied, rubbing the parts to be reduced with a cotton tuft or small rag. But it will go much quicker if one part of ether is added to two parts of alcohol. A mixture of turpentine and olive oil, to which is added a small quantity of English red, is said to be still more effective. The oil is afterwards removed with benzine. Care has of course to be used, to prevent the picture from being injured.

Direct Positives in the Camera.—For the production of direct positives upon bromide of silver gelatine paper, A. Lacour proposes the following manner: Expose in the same way as with negative paper. Develop a strong picture, wash with water, and make a short exposure in full daylight. The light picture parts take now a gray violet coloration. Now oxidize in the dark room the reduced silver picture with a 2 per cent. chrome acid solution. A red silver chromate picture is obtained. Wash now thoroughly, and pour again developer over the picture. Now, the originally bright parts, exposed at the second exposure, are reduced, while the silver chromate picture is reduced by the sulphite. In this way a positive picture is obtained.

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THE FADDISTS' CLUB.

"YOU'VE dinned into our ears over and over again the statement that art is never unintentional," remarked the Mere Member. "Now I should like to know whether you think instantaneous photography is artistic?"

"One-thousandth-of-a-second snaps of gymnasts performing somersaults in mid-air are certainly not artistic," the Bi-Gummer replied. "But to say that an instantaneous picture is necessarily inartistic because of its instantaneity is nonsense. It is possible to evince just as much artistic perception with a shutter as with a cap."

"But the quicker the exposure, the less the chance of art;" suggested the Philistine.

"Well, really, that's not so very far from the truth," said the Bi-Gummer. "Very rapid exposures generally favor more of the 'scientific section' than the 'pictorial'."

"Yet a focal-plane camera flaunted its advertisement in the last Salon catalogue!" the wag cried.

"Oh, that's nothing," responded the Philistine. "One of the most 'washy' of gum processes took a half-page in the catalogue of the Royal. Truth to tell, neither circumstance is of special significance now-a-days. They simply indicate that the two schools of photographic thought are beginning to realize that they do not lie so very far apart after all. Advertisers generally keep their fingers on the public's pulse in such matters; and they have discovered that links may privately be keen technicians, and royalties may inwardly be impressionists, whatever their exhibited work is like."

"But to get back to our first subject," the Mere Member continued, "it seems to me remarkable, and not altogether consistent, that so many instantaneous photographs should be hung at the Salon."

"Why?" inquired the Bi-Gummer.

"Why?" Because snap-shooting presupposes hurry, and I can't see that art and hurry are conceivable together."

"Neither they are," the Bi-Gummer assented. "Art is essentially leisurely. But leisureliness is a question of degree. Some sketchers can make a picture with half-a-dozen strokes of the pen; others need a thousand. Nevertheless, the productions of the one class may be as artistic as those of the others. And it is frequently the case that practice trains a black-and-white man to be extraordinarily swift while in every respect as strong and sure in his stroke as though he were slow. So it is with the photographer. I don't think I've ever known a worker make a mark in pictorial photography who did not commence his career (as far as true picture-making was concerned) with a tripod apparatus and painstaking time exposures. Later on, however, we see him gaily manipulating a hand camera, and producing quite as truly artistic results with what seems much less effort. Were we to trace the reasoning-out of each of his apparently lucky snap-shots, we should probably find that the same amount of thought and care had been expended upon them as on the others. In fact, to my mind, an artistic instantaneous photograph affords in some ways a more striking testimony of skill than an artistic 'time' photograph. The former comes nearer to my notions of 'genius' and 'inspiration' than the latter. Not that I mean to run down time exposures. Far from it. Still, there is a fascination in the facility of hand camera photography which cannot be gainsaid. By-the-by, when I use the word 'facility' in this connection I do not mean 'ease.'"

"But let us take an actual instance," the Mere Member protested. "At the Salon I observed snap-shots of street scenes, with figures moving about in them. Their 'art' (I take it depends largely on composition. The grouping of a photograph such as I have mentioned depends on chance. This being the case, does it not follow that the merit in the composition was also due to chance?"

"True; but the merit in these cases is traceable to the power of seeing the happy composition when it occurs," said the Bi-Gummer. "That is exactly the point wherein the street scene of an artist-photographer differs from the street scene of a mere haphazard worker. Selection enters into the question here quite as much a in a landscape."

"Then you contend that your art photographer to some extent foresees even the grouping of passing pedestrians and vehicles?"

"Not exactly that. He knows, though, when they are at their best, and his art consists in waiting till that fleeting moment arrives, and seizing it before it has gone. This business of street-scene picture-making is perhaps not so tricky as might be supposed. I believe some men have an extrordinary knack of spotting good backgrounds, and intuitively guessing the precise point at which a figure or figures must be to make the thing appear pleasing. Then they simply wait until the right sort of figures turn up.

"At the instant when they've reached the spot where they will 'compose,' well, the shutter clicks. And there you are!"

"The plan sounds all right," the Philistine criticized, "but in practice one always finds that in some corner of the plate there is a man with his arms in an absurd position, or a horse with its legs tangled. It is impossible, with our tiny view-finders, to notice everything which will reveal itself on the negative when development time comes. The developing of city snap-shots is the most heart-breaking of the conscientious photographer's experiences. Your imaginary artist, I presume, would destroy a negative containing a blemish such as I have described?"

"He need not necessarily do so," answered the Bi-Gummer, "though sometimes he has no alternative. By a brush-and-pigment process, defects of all sorts may be set right, with an ease of which the P.O.P. or platinotype printer can never dream. Non-photographic members of the public would be surprised if they saw some of the seemingly straightforward snap-shots of the Salon, in negative form. Indeed, without gum few of the said snaps would, I fear, even pass beyond the first stage. Gum, one might almost say, has been the hand-camera's greatest friend, though technicians would scorn to admit it, and probably sneer that it merely covers a multitude of sins."

"To put the case proverbially," whispered the wag; "it's an ill negative which won't make a gum print."

"Or it's an ill gum-printer who can't make something out of even the most hopeless negative," the mere member remarked.

"And neither a good negative," said the Bi-Gummer, "nor clever printing are the least use without the eye to see the latent picture first of all."—*Photo Art Journal.*

* * *

THE COXIN PROCESS FOR DEVELOPMENT IN DAYLIGHT.

BY JOHN GAEDICKE.*

THE process of Herr J. N. Ludwig, subject to German patent, and having for its purpose the development of dry plates in daylight, was demonstrated to us by the German Coxin Society, in the following way:

The plate-holder, with the exposed plate, was put light-tight on to a small box containing a developing tray, and the slide of the holder was then drawn out. By lifting a pin, the plate was released from its hold and fell into the tray, containing a deep-red color bath. As the plate fell, film side down, the tray was so constructed that the plate did not come in contact with the bottom, so that the color bath could penetrate the film without hindrance. Two minutes' time was required for this. The red color matter has the property to color the gelatine uniformly, so that the plate could be taken from the bath, now fully protected by its intensely red color against the action of daylight, unless the plate should be exposed to the sun. The plate was now put into the developer, which absorbed only part of the color matter, and the developing process, in subdued daylight, could be followed easily—even in the transparency, if a tray with ruby-glass bottom is used. After the development was finished, the plate was put into the fixing-bath. It had a pretty red color yet; but this disappeared completely, when washed in running water, because it had formed no chemical connection with the gelatine, and was taken up only by diffusion. After the plate had been washed for half an hour, it was colorless in its clear parts and quite free from fog. The process answered, therefore, fully its purpose, and proved to be easily executable. The advantages which the process offers for practical work, can easily be seen. The want of a dark-room is sorely felt by many amateurs.

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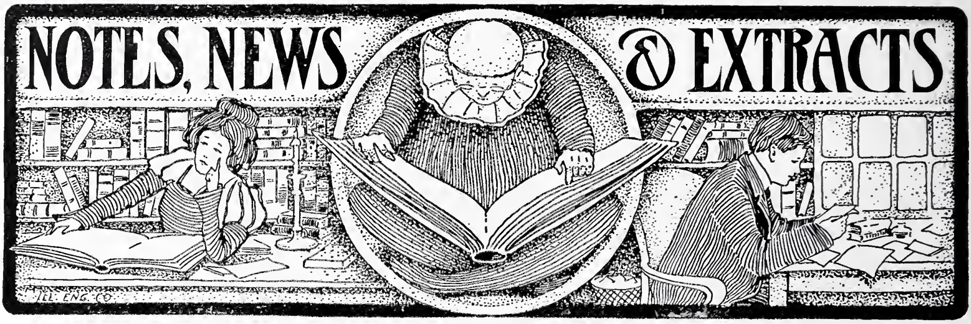
* Translated by Henry Dietrich.

THE CAMPFIRE. Mrs. Archie Commelin.

1902 Salon, Royal P. S., London.

GREY EVENTIDE. By J. Kearney.



NOTES, NEWS & EXTRACTS

The second annual convention of the Photographers' Association of Pennsylvania, West Virginia, Maryland and Delaware will be held at Harrisburg, Pa., May 26 to 29, 1903. A number of fine prizes will be offered to competitors. For further information address E. W. Brown, Secretary, Beaver, Pa.

Photographers' Association, Kentucky and Tennessee.—The Executive Committee of the Kentucky and Tennessee Photographers' Association met at Chattanooga recently at the studio of A. W. Judd, for the purpose of holding their meeting pursuant to the call of President. The dates for the convention are June 16th to 19th, 1903, inclusive.

A novel use for spoilt P. O. P. Prints which have moved in the frame and other spoilt ones that are not worth toning may be put in the light until quite dark. They are then washed until the water is no longer cloudy, immersed for one minute in a five per cent. solution of potassium bichromate, and dried in the dark. When dry, they can be used just like carbon tissue. The color will be red, but if before sensitizing the paper is immersed for one minute in an ordinary hypo fixing solution for papers the color will be yellow. Such carbon prints may be toned with gold or platinum, with which almost any color may be obtained. It must be well washed after toning or fixing before sensitizing.—W. L. G. B., in *Photography*.

The Fourth Annual Photographic Exhibition of the Wyoming Valley Camera Club was held at Wilkes-Barre, Pa., Jan. 20th to 24th, and from all accounts was most successful both as to the number of prints shown and general excellence of the individual exhibits.

It is a remarkable fact that out of the two hundred prints comprising the local exhibit, one hundred and twenty-eight were on Cyko paper, eighteen out of the exhibit were enlargments, leaving a balance of fifty-four for all the other makes of paper combined. Developing papers have long been recognized as indispensable by the amateur photographer, but it is nevertheless somewhat surprising that in so large an exhibit such a majority of the prints exhibited should be on the one paper. This certainly speaks volumes in favor of Cyko.

Pure Anhydrous Peroxide of Hydrogen — Peroxide of hydrogen, though not a common occupant of the photographic laboratory shelves, has yet a distinct place in photography. Among other things, it has been recommended as a hypo eliminator, but its price has been against its use for that purpose, if, indeed, a hypo eliminator is any use at all Hitherto it has been sold in 10 volume and 20 volume and 30 per cent. strength, and not stronger. A communication, however, has been made to a foreign technical journal by Wilhelm Stadel, to the effect that he has succeeded in making the chemical in a crystallized form at a low temperature, when, of course, it is evident that melting of the crystals should give a very pure sample. Herr Stadel finds that, contrary to recent assertions, peroxide of hydrogen readily crystallizes and in a very distinct manner. He first obtains solid crystals of the chemical and then drops a small portion into a strong solution—at 8° or 10°—how prepared he does not say, but this communication was only of a preliminary nature, and immediately the whole mass is permeated with crystals. Repeating this process with these crystals obtained from another liquor and remelted he obtained peroxide of hydrogen free from water. It will be interesting to await further developments with details of cost, etc.

Bromide Prints in Indian Ink.—The following details of a process for making bromide prints into pigment prints were given to the Pas de Calais Photographic Society recently by M. Houzel. We have not been able to try the plan ourselves; perhaps some reader will do so, and let us know the result. Having a number of bromide prints, he was anxious to keep, which had become yellow during development, he tried to remove the stain by immersing the prints in hydrogen peroxide, using the ordinary commercial peroxide diluted with about three times its bulk of water. The prints were left in this over night. On examination the next morning it was found that the image had almost vanished. Houzel dried all the prints, remarking that the whites were still covered with gelatine, whilst from the shadows the gelatine was almost all removed. Noting this he tried the following experiment: By means of a brush the whole of the prints were covered with Indian ink, and dried. Treatment with warm water followed next, which caused the removal of the remaining gelatine from the whites and the ink with it, so that there remained an image in black and white consisting of ink rather than silver. He said that he had since tried similar experiments with various makes of paper, and in each case has succeeded in obtaining the same results, which he states are very charming, and more like engravings than anything else. —*Photography.*

Do Sunspots Emit X-rays?—Prof. Nordmann says that he regards the sun as the source of all kinds of electromagnetic waves, although many of these are absorbed by the atmosphere of the earth. The photo-sphere (the circle of light about the sun) is, therefore, probably the source of electromagnetic waves of great length as well as of light waves. Hertzian waves should be chiefly produced in the zone of sunspots and faculæ, and at the maximum of solar activity. Since the filaments of the corona are probably due to the pressure of light, the filaments should be shorter during a sunspot period than at other times, and this is corroborated by observation. The incandescence of the upper portions of the sun's atmosphere cannot be due to heat alone, as it is particularly intense during a maximum of sunspots, when the surface radiation of the sun is reduced. It is, therefore, extremely probable that it is due to Hertzian waves, which are then at their maximum. The mechanical pressures of Hertzian waves is small. As regards comets, their spectra show that the incandescent gases of comets have a low temperature, something like that which obtains in discharge tubes. This fact identifies them with incandescent gases produced artificially by means of Hertian waves. As a comet approaches the sun its spectrum is changed in the same manner as that of a gas in a "vacuum tube" when the electric current intensity is increased.—*Science Siftings.*

First Salon (Twelfth Annual Exhibition) of the Toronto Camera Club: You are invited to submit prints for the First Salon (Twelfth Annual Exhibition) of the Toronto Camera Club, at their rooms, Forum Building, Yonge Street, Toronto, from April 21st to 25th, inclusive, 1903.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the catalogue issued by the Club, which will be official notification of acceptance or rejection of the works submitted to the Jury of Selection.

Any number of prints may be submitted, but only such as in the opinion of the Jury of Selection show distinct artistic merit will be accepted.

The Jury of Selection will be composed of two artists and one professional photographer.

Pictures must be delivered, charges prepaid, to the Secretary Toronto Camera Club, Forum Building, Yonge St., Toronto, Ont., and must reach Club Rooms not later than Monday, April 6th, 1903. [Note.—In sending exhibits from points outside of Canada, allowance must be made for at least three clear days' detention in Customs. When possible, exhibitors from points outside of Canada should send exhibits by post.]

Exhibits will be repacked and returned to exhibitors as soon as practicable after the close of the Exhibition. Special care will be taken of all exhibits, but responsibility for loss or damage cannot be assumed by the Club.

HUGH NEILSON,
Secretary-Treasurer.

"Hypo" and Acids.—Herr H. V. Attingen has been investigating the action of acids upon hyposulphite of soda, and the time taken before the precipitation of sulphur becomes visible. He finds that the time taken depends on the concentration of the hydrogen ions, and is the same for all isohydric solutions. An interesting portion of his communication will be found in his observation that when sulphide of soda is present along with hypo, the time of precipitation suffers retardation. In applying a knowledge of these facts to the hypo-fixing bath, it may be well to bear in mind the presence of the gelatine of the plate, for it is well known that the presence of this and other organic matters entirely inhibit many reactions, which in the absence of these disturbing elements are very pronounced. An example of this is seen when a plate, which shows urgent signs of pitting, is placed direct into the alum bath, when it is evident that hypo must be retained in the body of the gelatine, and must there come into contact with the alum, yet no precipitate is produced, as would be the case after a while under ordinary conditions. An action in this direction, whose explanation is not very clear, has been brought under our notice by a well-known photographer. He tells us that when a newly-mixed acid hypo bath—made by adding acid to an excess of sulphite of soda solution, and putting a limited amount to the hypo solution, the whole being, and continuing, perfectly clear and free from turbidity—is first used for fixing plates, the latter, when dry, are so rough on the surface as to render fine retouching impossible. After being used a few times, however, this effect dies away. Meanwhile the bath has continued clear and translucent.

Why do not more amateur photographers join camera clubs or photographic societies is a question frequently asked.

Surely the advantages accruing from such association more than make up the small sum expended for dues. Rarely do you find an amateur owning anything even approaching a studio, or a convenient and comfortable dark room, his studio often times being the backyard or a room lighted by but one window, and this one window so situated as to be but an aggravation.

The bath-room is the extemporized darkroom, and many a worker has been deterred from pursuing his hobby owing to his dislike to have to stow everything away from inquisitive bodies when through working. The idea seems prevalent that camera clubs and photographic societies are only for the advanced worker. This is far from the truth, it is true, however, that the majority of camera club members are advanced workers. The reason for this is obvious, they have much to work with that the amateur working by himself cannot afford, and in addition enjoy and profit by the experience of each other.

Then again the average human being dislikes to expose his ignorance on any subject whatsoever and to appear not to know or to seek information is to him humiliating.

It is a fact, however, that the beginner can absorb more information of good practical value in six months by simply visiting his photographic society, mingling with its members and watching them work, than he could learn in two years working by himself.

It is also a fact that the majority of successful workers belong to one or more camera clubs, and that a large measure of their success is due to such association.

Where Are the Old Lenses?—This was a question Professor Turner asked. When Barnard went to the Lick Observatory, said he, among its miscellaneous property he found a good portrait lens by Willard, and determined to try what sort of pictures he could get of the stars. He attached it to a disused equatorial mounting and set to work; and the results were marvelously beautiful. His pictures of the Milky Way are wonderful revelations of the structure of that wonderful region, and by making long exposures he discovered extremely faint nebulosity covering vast areas where it had never been suspected; nay, where its existence was at first stoutly denied by others who could not obtain a trace of it with instruments apparently more powerful. When he left the Lick for the Yerkes Observatory near Chicago, the Willard lens had to be left behind, and he cannot get another like it! He may be said to have searched the world for such a lens, for after trying all over the United States, a couple of years ago he came to Europe and tried several of the best makers without success. The test was rigidly a numerical one. He tried which lens, with a given exposure, would show most stars, and he could find no lens of equal aperture equal to his Willard lens. This lens was a product of the old days of wet-plate photography, when rapidity could not be obtained in the plate, and it was all important to have it in the lens. It is essentially a very rapid portait lens of which Professor Barnard is in search, said Professor Turner, and it almost seems as though the art of constructing really rapid lenses had been lost in the few years since the dry plate has been invented. But, even so, where are all the old lenses? Has anyone such a lens in a lumber room? There may be some possessing such lenses, and having no further use for them—large rapid portrait lenses dating from the old wet-plate days. These are the lenses which can be turned to good account in photographing faint widely-diffused nebulæ, lenses which astronomers such as Professor Barnard would find almost invaluable.—*Photography.*

Glass Discoloration.—It is now a generally known fact that glass is by no means the impervious and unchangeable substance that it was at one time believed to be. It is to a certain small extent soluble, and cases are known in which wine, kept in glass bottles of a certain composition, has been spoilt by the chemical action set up between the bottles and their contents. The question of solubility is, however, one which is not likely to come under the pressing notice of the photographer, for the re-agents in common use by him have not any appreciable effect upon glass. But what does concern him is the distinct deterioration with regard to color to which the glass used for glazing his studio is subject. We can observe this change in other descriptions of glass besides that used for glazing purposes. If for example one of the globes upon a gaselier be broken and replaced by a new one, the difference in whiteness between the new comer and the old lodgers is most marked, and will be apparent for a long time. In the process of manufacture glass intended to be white is liable to get a dash of inconvenient color from the presence of certain impurities in the materials of which it is made, and to counteract this tendency certain oxidizing or oxygen-yielding materials are added to its constituents. The more common of these are nitre, white arsenic, and paroxide of manganese. If, however, an excess of the latter material be employed, the glass is apt to assume a pink or violet color. This coloration or discoloration may not be visible when the glass is first made, but after exposure for some time to daylight it is noticeable. If the tone were a blue-violet it need not distress the photographic worker, for the speed of his plates would not be affected, but as the tone given by the manganese is a red-violet it is a different matter. Perhaps some will find a compensating advantage in the colored glass acting as a screen, and therefore securing a better rendering of certain tints; but most photographers will look askance at any obstruction which means extra exposure. Specimens of glass in the manufacture of which an excess of manganese has been employed are exhibited in the Vitreous Collection at the Jermyn Street Geological Museum, and the visitors' attention is directed to the same peculiarity of tint in much of the plate glass which covers the roof of the building itself.—*British Journal.*

The Continuing Action of Light in the Carbon Process.—At a society meeting a few weeks ago, when the subject of carbon printing was under discussion, some doubt seems to have been expressed as to whether the action of light set up in an exposed carbon print could be continued in another piece of tissue kept pressed in contact with it. At another meeting, reported in our last issue, one of the members showed the result of an experiment which proved that such action did take place, although the image was very faint, and was said to be too flat to be of any practical use. The fact that the action of light set up in one bichromated gelatine film could be continued in another that had not been exposed by its being kept pressed in contact with it for a time was shown nearly thirty years ago, and also that good pictures could be produced in that way. This was practically demonstrated before the London Photographic Society, now the R. P. S., by the late M. A. Marion, nearly thirty years ago, a full report of which will be found on page 242 of our volume for 1873. In our issue for November 9th, 1900, Mr. E. W. Foxlee published the results of some experiments that he had recently been making with M. Marion's process—"Mariotype"—and how the time of keeping the two tissues in contact could be considerably shortened, from that necessary in the process as published by M. Marion, from eight or ten, to two or three hours. Since then Mr. Foxlee has shown in our contemporary, the *Photographic News*, that the action of light set up in a bichromated gelatine film could be communicated to, and continued in, other colloid bodies, such as gum, for example. Also that the presence of free bichromate in either film was unnecessary as that could be all washed away, and the print dried and kept for weeks before the second colloid body is applied. Furthermore, he has proved that the initial print need not be made in bichromated gelatine at all, as other colloids will answer the same end. Paper, for example, may be coated with a starch—arrowroot, for instance—sensitized, printed, washed, dried, and, at any subsequent time, coated with pigmented gum containing an acid, and again dried. In this state the print can be kept for weeks, to be developed at any convenient time. In this method of working, excellent pictures may be obtained: but, of course, it entails more trouble and time than that involved in working the ordinary carbon process, notwithstanding that the picture is obtained the "right way about" without transfer, and the fact that we have a visible image to begin with. Still, the system is interesting from a scientific point of view, as illustrating the persistent action of light in bichromated colloid substances.—*British Journal.*

TRADE NOTES

"I Like the Cyko Paper the Best of any I have used, as it runs very even and I don't waste hardly any, while of —— if I got three-fourths of an order that was good, I thought I was doing well; and when I made six dozen prints from the Cyko and didn't find one poor sheet, I naturally felt that —— was not in it." L. E. H.

The Folmer & Schwing Mfg. Co. have removed their main office and show room to their factory building, 407 Broome Street. The rapidly increasing demand for their cameras and focal plane shutters necessitated the enlargement of their plant, and it was deemed advisable to have their entire business under one roof.

Providence, R. I., Feb. 15, 1903.

The Anthony & Scovill Co.

Gentlemen.—I received the sample of Art Cyko which you sent me. I am much pleased with it. The verdict from those who have seen the prints is, "Just like platinum."

Yours very truly,

A. S. H.

The Figures, Facts and Formula of Photography. Edited by H. Snowden Ward. Dawbarn & Ward, Ltd., Publishers, London.

This book contains thirty-three sections of good solid information, the facts being stated in the fewest possible words, and so arranged as to be easily located. As a manual for the practical photographer who has but little time and desires his information at once, this book will prove highly acceptable.

The Anthony & Scovill Company report a most gratifying demand for their new Ansco daylight loading film.

The Ansco film is without doubt a most superior article, far in advance in many respects of any rollable film heretofore manufactured, the great latitude in exposure, makes it specially valuable to the average amateur photographer.

The support for this film contains no chemical injurious to the sensitive emulsion and consequently greatly increases its keeping qualities; this feature alone would warrant its use as the photographer heretofore has been greatly hampered and annoyed in finding that he had been using films which had deteriorated from chemical action set up in the support.

The fact that the rollable film is no longer in the hands of a monoply may or may not interest the average amateur consumer, but it is certainly interesting the dealers in photographic supplies, who have long sought relief from the arbitrary methods imposed by the only American manufacturers heretofore making rollable fims.

When the most excellent qualities of this new film becomes more generally known the amateur will then certainly be interested as it will greatly enhance the quality of his work.

January 28th, 1903.

Editor Photo. Times-Bulletin.

Dear Sir—Mr. Dobbins, the painstaking worker in the field of Telephotographic and and Pinhole Photography, has consented to our publishing the following unsolicited letter, wherein he tells how to use the meter in pinhole work and of the value of the meter to him —invaluable, it would seem

I should like your readers to know that we number all our packets of paper now, and that paper marked as No. 4 on back of envelope is slightly faster than usual and that, therefore, it will be best to lower each speed number on the speed list to the one next lower when using this paper, *i.e.*, F. 111 to F. 90, F. 90 to F. 78, etc.

Very respectfully yours,

Henry Wenzel, Jr., Manager,

The Infallible Exposure Meter Co.

Gentlemen—Will you kindly send me, for enclosed fifteen cents, a packet of the new paper, and may I say that, thanks to the articles of Dr. D'Arcy Power in *Camera Craft* I have solved the problem of how to use the Wynne Exposure Meter in pinhole photographs? Simply multiply the number of inches of bellows' length by 2 if a No. 8 needle hole is used, by 3 if No. 10, and by 4 if No. 12, and so on. The result is the F. value.

I cannot express to you my appreciation of the Wynne Meter. It has saved me plates, it has saved me costs of journying, it has saved me patience. I have, I speak sincerely, saved its cost many times over, even in my limited work. Especially in telephotography and similar operations, where the question of accuracy of exposure is of first importance, the meter is invaluable. I think so much of it that I have just bought me another one for my son, who is also interested in amateur photography. The new meter is, as scores of tests that I have made have demonstrated, absolutely reliable.

These words I send you voluntarily, just free, simple, graceful appreciation of the meter.

Very faithfully yours,
"(REV.) FRANK S. DOBBINS.

[*From the "Springfield Union," Dec. 17, 1902,*]

COLUMBIAN PHOTO PAPER COMPANY, WESTFIELD. MASS., ONLY COMPLETE PLANT OF ITS KIND IN THE WORLD.

Among the most enterprising of the manufacturing concerns in Westfield may be mentioned the Columbian Photo Paper Company, with its establishment at Springdale. The concern is of recent origin but is steadily pushing its way into prominence, and is recognized as being abreast with the leaders among the concerns of its kind. The company was established in 1899 as the Solar Paper Company, but the firm's name was changed to the Columbian Photo Paper Company, which is now owned and controlled by The Anthony & Scovill Company of New York. The growth of the business has been phenomenal and the quality of the product has improved until now there is nothing made by any other concern in this country that can compare favorably with that made here. Photo paper is the article which has been brought to such perfection by this house. There are many different kinds and qualities of which the most worthy of note is the famous Cyko paper, which is their special product. It is a gaslight paper, by the use of which photographers may use gaslight as well as sunlight for the printing process, and thus saving 75 per cent. of the time required by the printing-out method.

This firm not only sensitizes paper but manufactures it as well, this being the only firm in the world who manufacture their own paper for sensitizing purposes; all other concerns in this country import their paper from foreign lands.

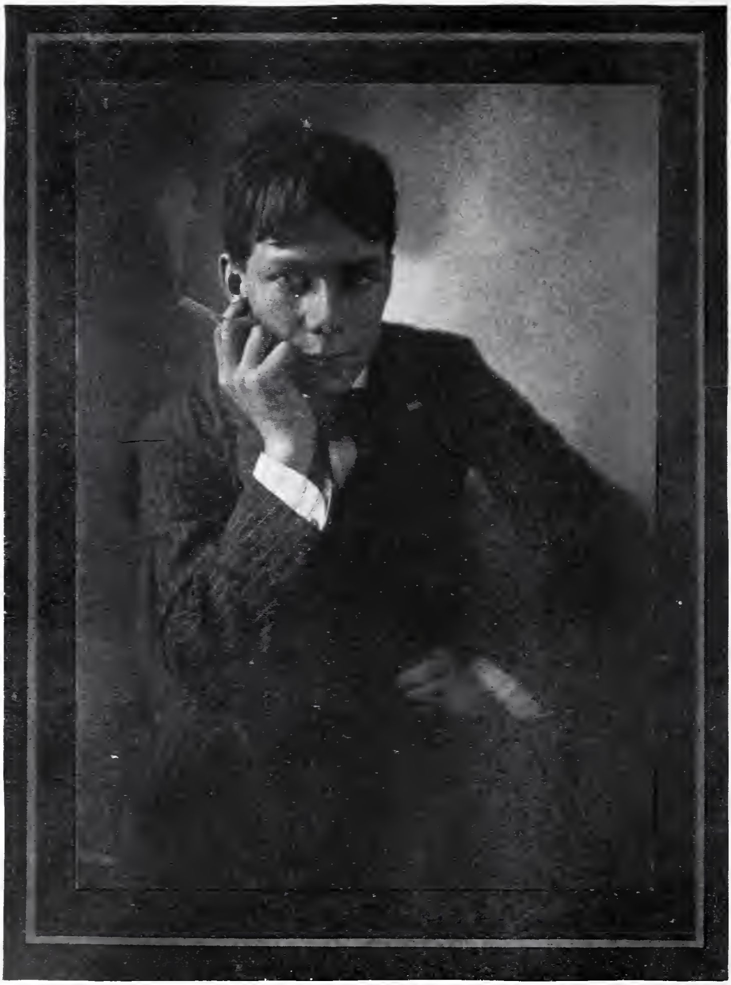
Cyko paper is sent all over the world. Among the recent orders were some from the Philippines and Nome, Alaska.

The premises occupied by the plant are of ample proportions, being comprised in a building 200 x 200 feet in size, three stories high, and an ell which has been built as an addition.

The plant of this company is equipped with the latest, best mechanical equipment suitable to the trade, and gives employment to sixty expert operators.

The plant is divided into departments for the careful and efficient carrying on of the work, and in the future we may expect to see important developments, as there is no reason why the demand for this product shall not continue to increase,

The enterprise gives every promise of a future of usefulness and prosperity.



PORTRAIT. L. H. Keller.

The Photographic Times-Bulletin

An Illustrated Monthly Magazine devoted to the Art, Science and Advancement of Photography. Issued on the first of Each Month.

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All literary contributions, correspondence, "Queries," etc., should be addressed to THE EDITOR; all advertising matter to the Advertising Manager.

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I CAN SELL YOUR BUSINESS, no matter where it is. Send description, state price, and learn how. Established 1896; highest references; offices in fourteen cities. W. M. Ostrander, 1550 N. A. Building, Philadelphia.

A FIRM IN RUSSIA, including an extensive wholesale and retail business in medicines and druggists' articles, will enlarge its department of photographic supplies, and **will accept Agencies for Russia.**
Manufacturers of Photographic Apparatuses, and those of all kinds of Photographic Supplies, are requested to send their price lists, conditions of sale, and firms who wish to dispose of agencies and their terms, to F. P. F., care of Central Advertising Exp., L. & E. Metzl & Co., Moskow, Russia.

PATRONIZED BY ROYALTY—First Prize Trinidad Exhibition. Catalogues and terms invited from reliable firms. Negatives, Views, etc., for sale. Address, George Adhar, San Fernando, Trinidad, West Indies.

AN ITALIAN FIRM, whose travelers visit frequently during the year the entire Italy, desires agencies for all kinds of photographic articles. A1 references at disposal. Address, in French language, Cassetta Postale, 72 Milan, Italy.

Wanted.

WANTED—Novelties of the Photographic Line (staple articles) wanted for introduction in Germany by responsible, experienced merchant. Address, in detail, Jos. Valder, Cologne, a/r Mauritiusnall 65.

WANTED—Retouching by the piece; all work first-class; reasonable rates; expressage paid one way. Address, Retoucher, 9 Hornell Street, Hornellsville, N. Y.

For Sale.

FOR SALE—A fine Photo Gallery in city of fifty thousand; outside population, one hundred and fifty thousand to draw from; old stand, good location; good business, and good prices; doing work up to life size; best light and rooms in the city. Address, "Studio," care of THE PHOTOGRAPHIC TIMES-BULLETIN, New York City, N. Y.

FOR SALE—I offer for sale an excellent Photo Studio in Hinton, W. Va.; one of the best in this section of the State. Large stock of moldings and photographic supplies. Complete up-to-date equipment. Business well established. and will pay 40 per cent. A great opportunity at $3,180.
Address, W. M. Ostrander, North American Building, Philadelphia, Pa.

Employment Wanted.

Advertisements of Operators Seeking Situations will be Inserted Free of Charge.

WANTED—Permanent position by an A1 View Operator, sober, industrious, and an expert in all out-door work. Fifteen years' experience. I will engage with none but responsible people who can afford to pay good wages. Address, J. H. Barnes, 117 Franklin Street, Marietta, O.

WANTED—Situation in good Gallery by photographer of ten years' experience, up-to-date operator, dark-room man, and first-class retoucher. Address, Ernst Schwaner, 1315 Homewood Avenue, Baltimore, Md.

YOUNG MAN, twenty-one years of age, desires position as Assistant Operator, having five years' experience in general studio work, and also X-ray photography. Address, E. Weininger, 342 East Sixteenth Street, New York City, N. Y.

WANTED—Situation as Operator and Retoucher, or black and white and color artist. Address, Charles Graves, 2930 Mutter Street, Philadelphia, Pa.

YOUNG MAN wants position as Assistant Operator in first-class studio; A1 dark-room man and platinum printer; eight years' experience. Address Chas. G. Jaycock, 13 Josephine Avenue, Somerville, Mass.

WANTED, by competent lady Retoucher, a first-class studio position. Address "Competent Retoucher," Box 686 Springfield, Mass.

YOUNG MAN desires position as Printer; experienced in general studio work. Address, Henry Jacobs, 909 Manhattan Avenue, New York City.

AT LIBERTY—Experienced Operator, Retoucher or Printer; Buffalo man; reliable. Address, L.E. Adams, 208 South Brady Street, Du Bois, Pa.

FIRST-CLASS OPERATOR AND RETOUCHER desires position; highest references. Address, John Kaplan, 41 First Avenue, New York City, N.Y.

Operators Wanted.

WANTED—Young lady Printer and Retoucher, who would like steady work in a first-class Studio. Send references and photograph of self. Address R. M. Knipple, McCook, Neb.

WANTED - A first-class Retoucher and general assistant. Permanent position. Address W. H. Hoffmann, Savannah, Ga.

WANTED—Models for artistic poses. Address, with photograph, Frank G. Barry, Herkimer, N. Y.

Just tell them that you saw it in "The Photographic Times-Bulletin."

Actien-Gesellschaft für Anilin-Fabrikation, Berlin SO. 36

Photographic Department.

Manufacturers of ,,AGFA"-Developer:

Rodinal, Patented.

RODINAL is a highly concentrated developing solution, which, for use, is diluted with 15 to 40 parts of tap or pump water, according to the exposure given and the make of plate.

RODINAL is of most excellent keeping qualities.

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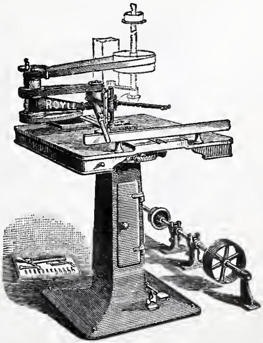

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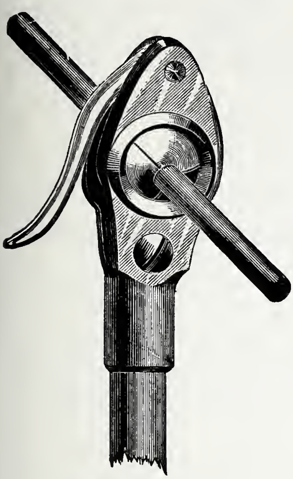

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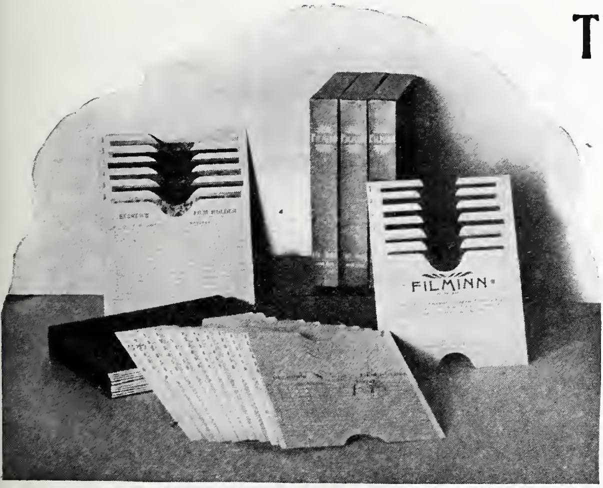

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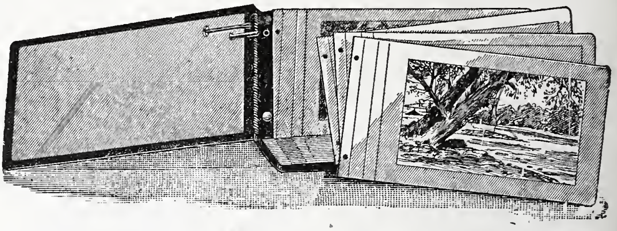

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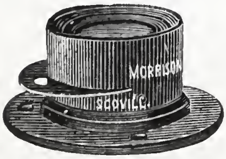

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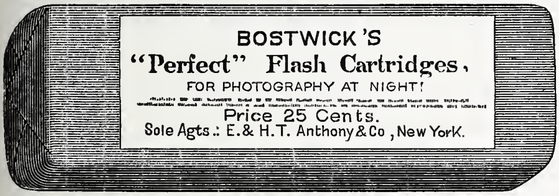

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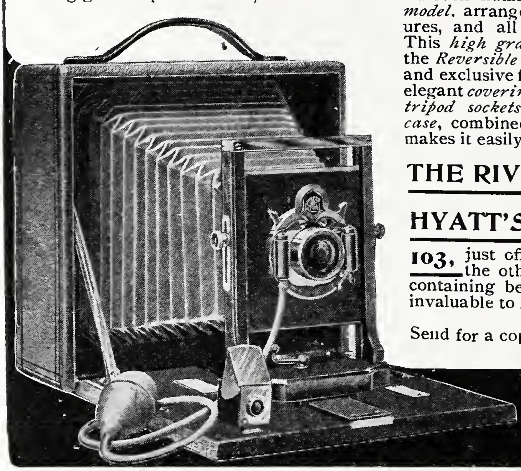

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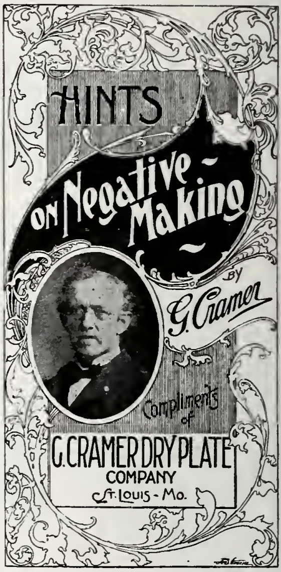

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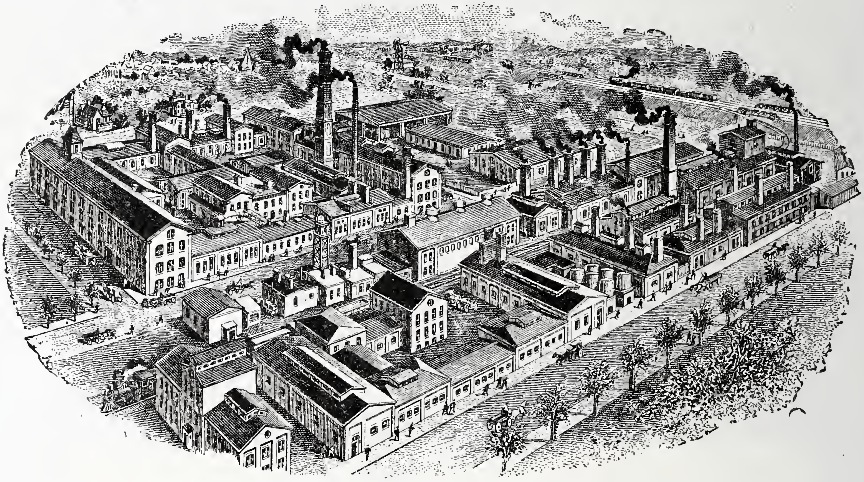

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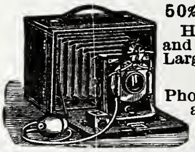

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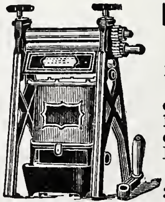

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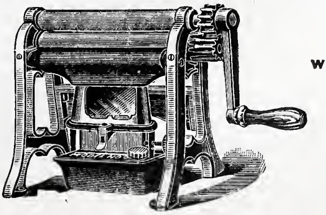

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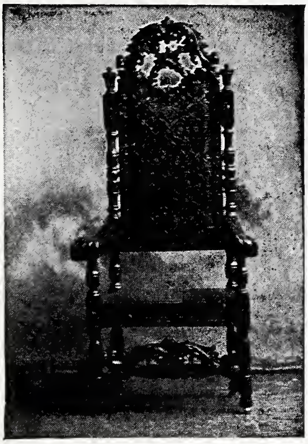

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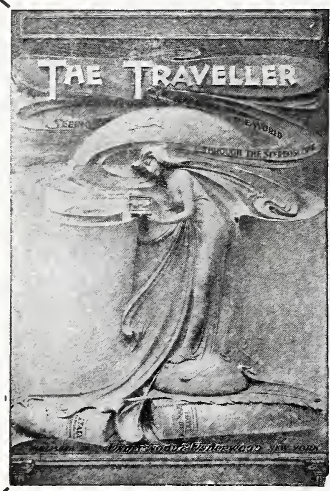

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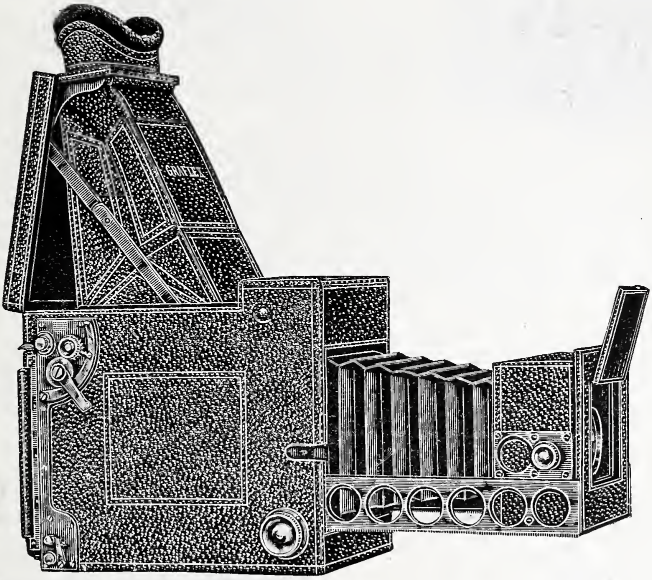

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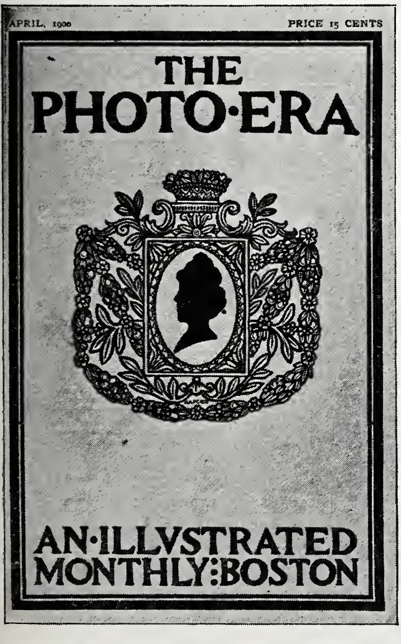
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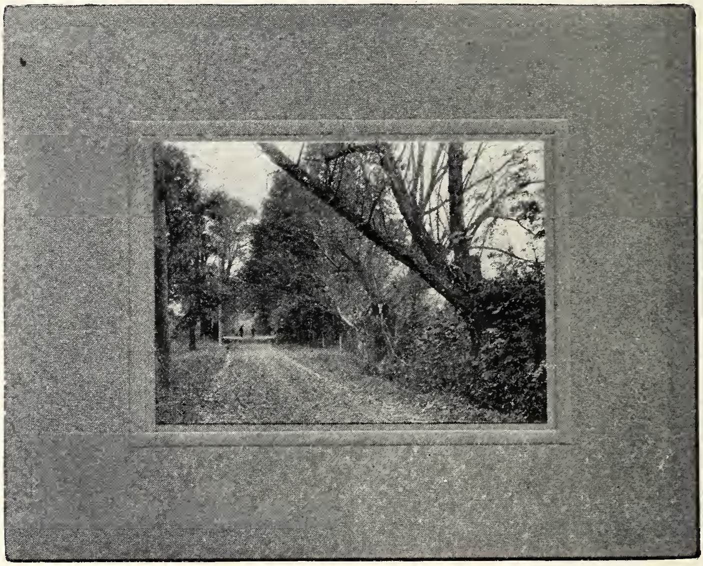

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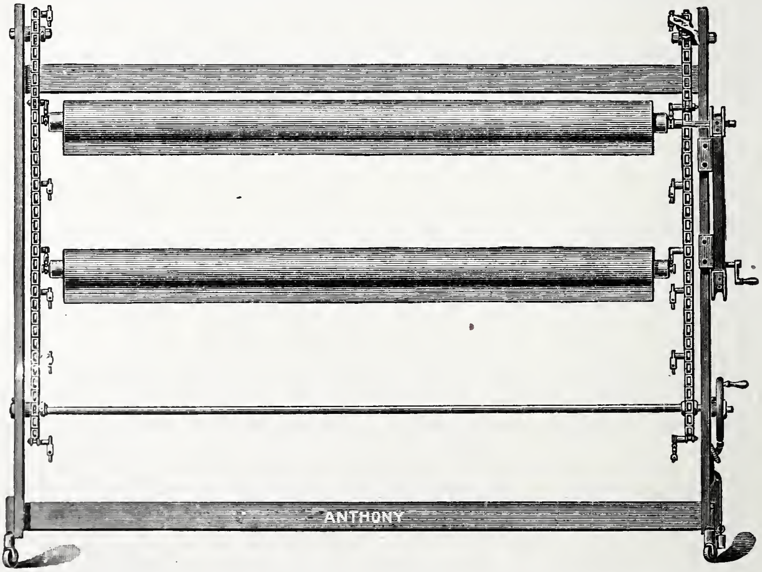

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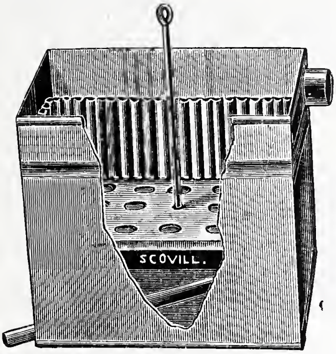

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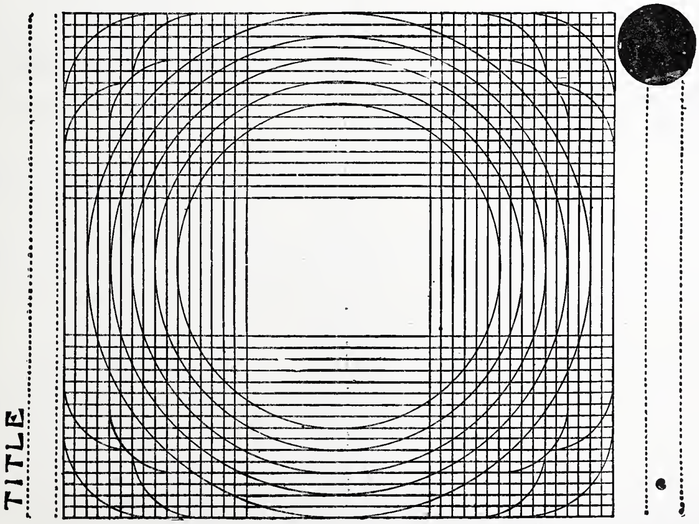

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CHAPTER VII.—Development.
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CHAPTER IX.—Printing.
CHAPTER X.—Enlargements.
CHAPTER XI.—Transparencies, Lantern and Stereoscopic Slides.
CHAPTER XII. — Photo-Mechanical Processes.
CHAPTER XIII. — Mounting and Framing.
CHAPTER XIV.—Copyright.
CHAPTER XV.—Exhibitions.
CHAPTER XVI.—Conclusion.

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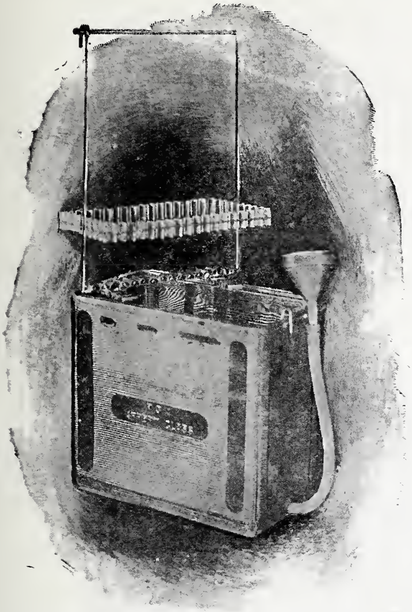

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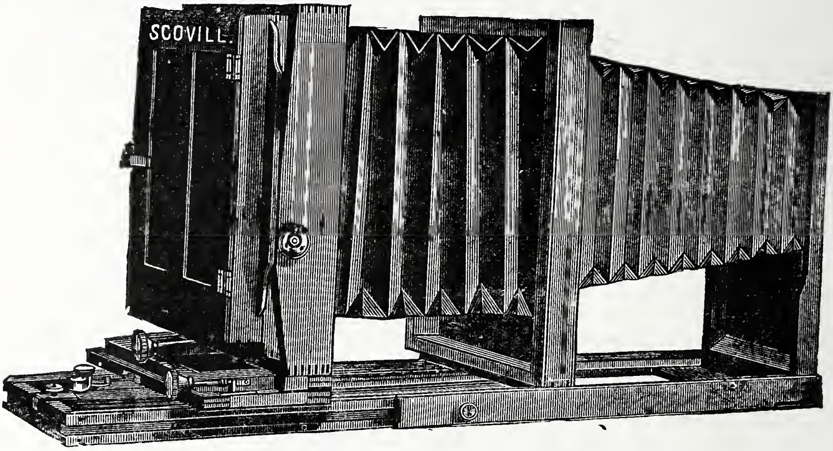

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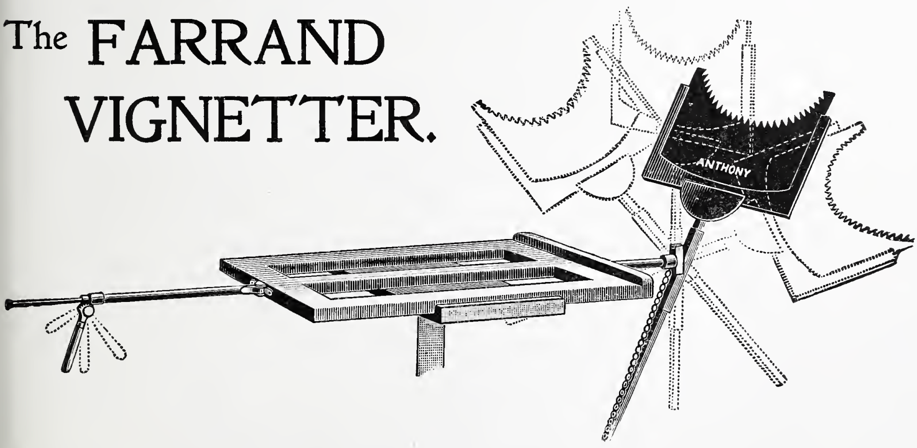

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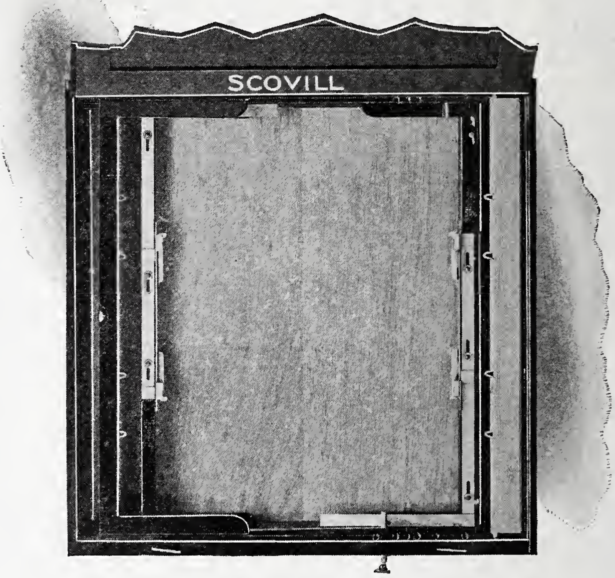

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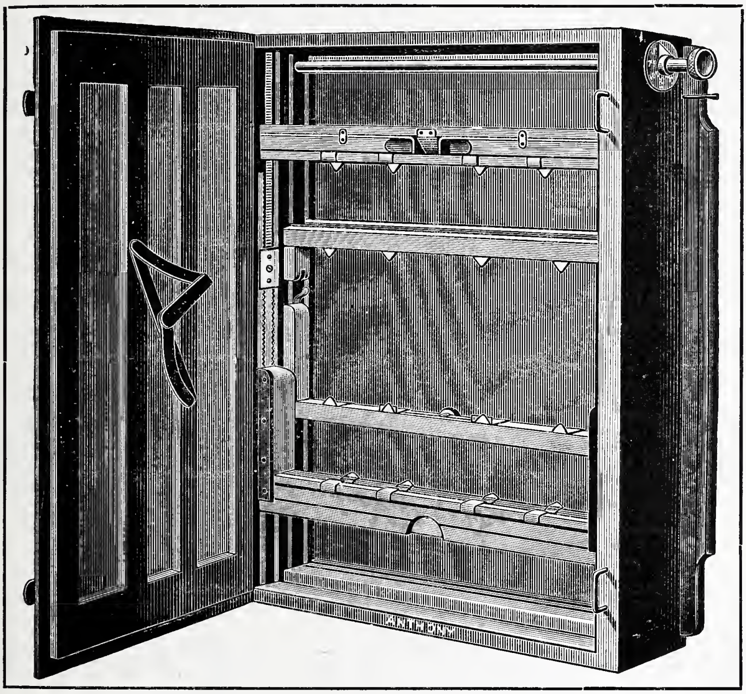

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8 x 10	32 00	35 00	42 00	48 00	54 00	68 00	82 00
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11 x 14	60 00	80 00	98 00	115 00	135 00	160 00	185 00
12 x 15	75 00	100 00	120 00	142 00	170 00	200 00	230 00
13 x 16	95 00	122 00	144 00	172 00	208 00	240 00	280 00
14 x 17	115 00	145 00	168 00	208 00	252 00	280 00	340 00
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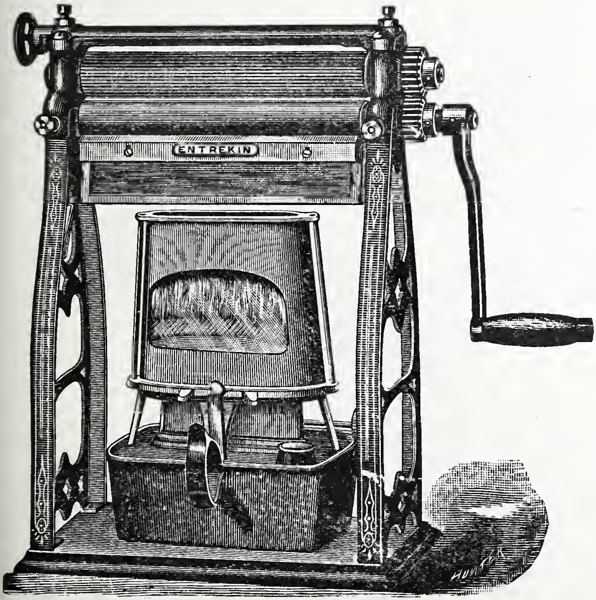

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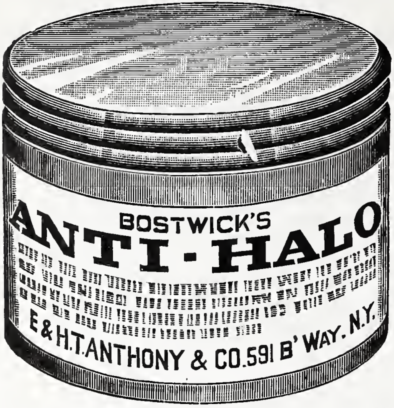

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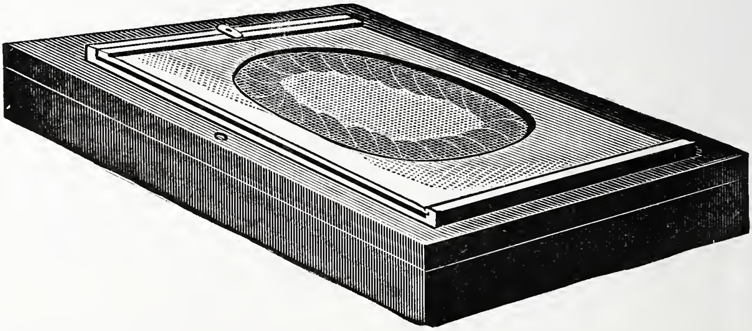

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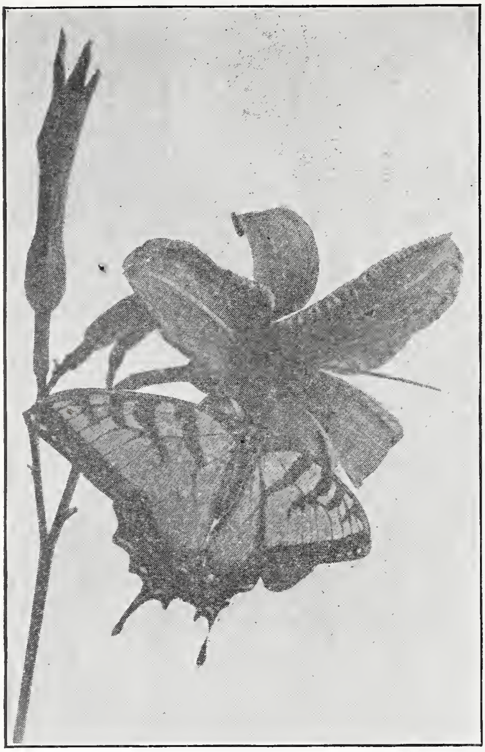

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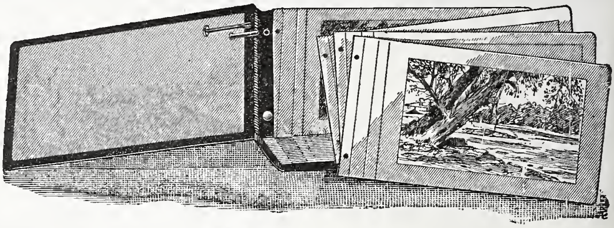

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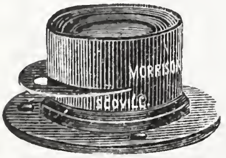

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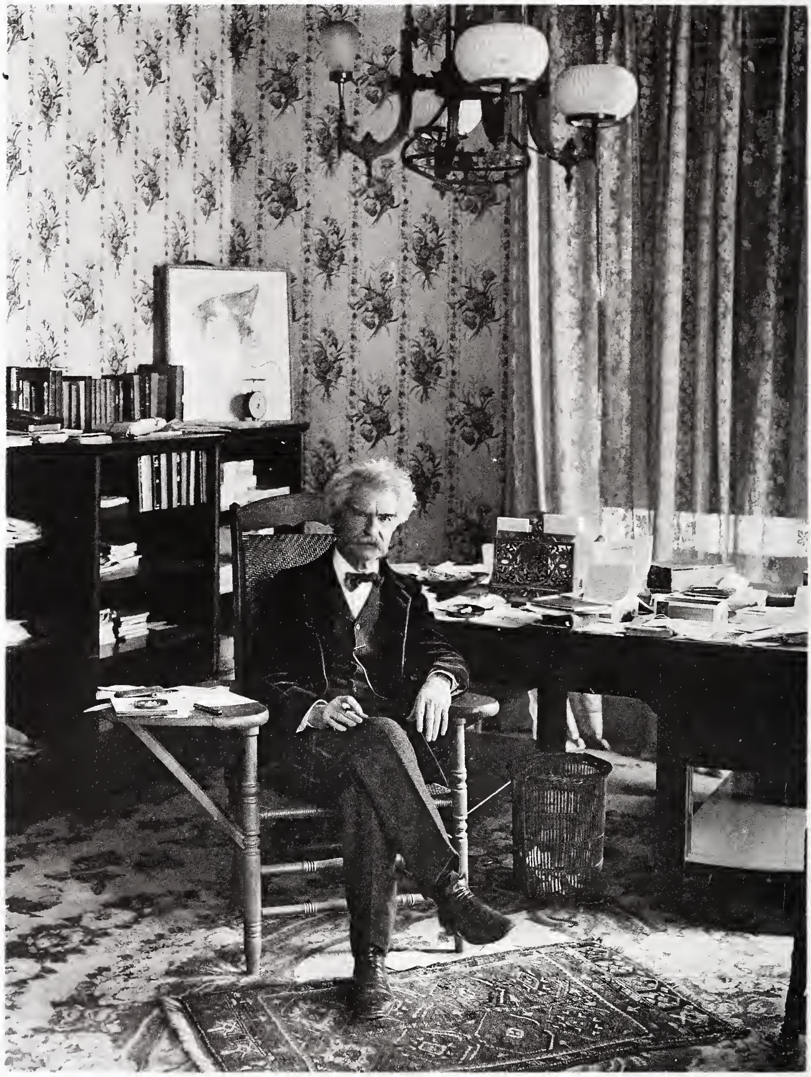

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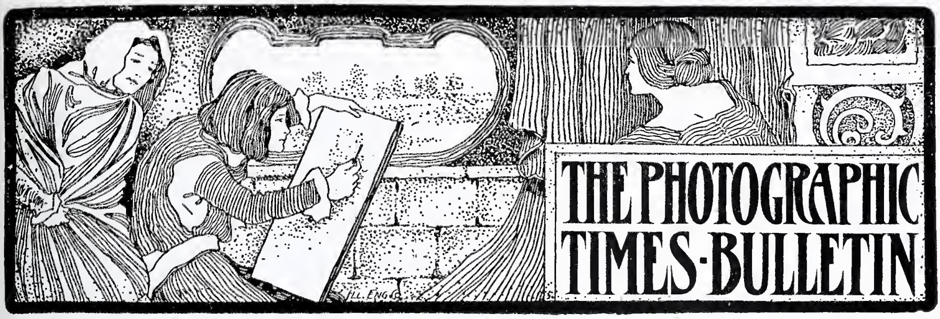
MARK TWAIN AT HOME.



EDITORS: PROF. CHARLES F. CHANDLER AND SPENCER B. HORD.

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A PILGRIMAGE TO NOWHERE.

BY ADELAIDE SKEEL.

TO-MORROW never comes. There is no such place as Nowhere. To-morrow when it is born we christen To-day, and Nowhere when found is Somewhere. I don't believe it, do you? Incognita and I made a pilgrimage to Nowhere, and I defy you to follow our route on the map.

Suppose you wake up some morning, determined to make home happy by leaving it, well, why not? There will be as many things to be done to-morrow as to-day, and twice as many next week, so why delay? Incognita and I were of one mind, so we met each other on neutral ground, between her home and mine, that neither should feel the burden of the other's hospitality. She owned the horses, the silver plated harness, the long new whip, the smart English coachman in his irreproachable drab livery, the contents, solid and liquid of the luncheon hamper, the literature in paper backs and half calf, while I only had a kodak, but when I unroll my films of pictures, you may say which one carried back the bigger half of the fun. Incognita approves the doing of moral stunts, so we started one August morning on schedule time, promptly at nine o'clock, lest we lose the habit of punctuality, a habit as yet, with me in solution, but with my companion crystalized stiff and firm. I did not know where we were going, and did not ask, but she studied time tables and road maps with glasses and assiduity. When I had been away ten minutes by my watch, I was indifferent to all home responsibilities, and was willing the gardener should weed the cabbage patch or peel potatoes, as it best suited himself and the second housemaid.

Birds have migratory habits so we expected a robin to sing us a glad God-speed as we rolled along the country road, and flowers have winged seeds and are moreover classified sometimes as "escaped from gardens,"—we had escaped from the restrictions of straight rows and tied up stalks, so of course, the golden rods nodded as we passed and the sweet scented white clematis, the Traveler's Joy hailed us as fellow tourists, but who would have thought a chipmunk, standing on his hindlegs on a rail fence would have dropped the nut from his teeth to chatter—

"Chit, chat, choo,
Homekeeping hearts are happiest,
Chit, chat, choo,
Don't believe it, do you?
Chit, chat, choo———"

Every one knows squirrels belong to a family hidebound for centuries with traditions concerning the hollow tree trunk, the family hole and the seclusion of a quiet life. Surely this little rascal had the courage of his opinions and a mind ahead of his time. Ah, it was a jocund day, and we were almost too happy too talk. Incognita had a theory, not a practice, mind you, that silence is restful, and that to encourage it will eventually make one healthy, happy and wise. We tried it, on our trip often for five minutes at a time. We drove the first dozen miles away from the Hudson towards the Walkill and sat down at noon to take lunch on the river bank near the State Normal School, rejoicing that vacation days had banished the scholars. The little Huguenot village here dates back to the time when the Edict of Nants was revoked and religious persecutions drove the refugees to a new world and there is one street, called Huguenot Street, whose old stone houses date back to the end of the seventeenth century. I have some pretty conceits anent early times, and love to make the long, long dead live again by my daring audacities of realism, but, alas, Incognita doubts my facts and scoffs at my fancies, so she bade me be silent and pose against a tree that she might take my picture as the first one on the roll of films. The hungry sparrows waiting for our crumbs twittered—the tale I could not tell.

We climbed the mountains wearily. The horses sweltering under their plated harness, the English coachman dropping his aspirates and much of his style. The roads were heavy from the recent rains and although the panoramic views through the trunks of the white birches and chestnuts were entrancing we reached Hotel Decorum in very bad form. How shall I describe this resort where there are twice ten commandments to break, where one hears a man sneeze across the quiet lake and a girl refuse an offer in a block of rustic summer houses? It is beautiful here, but it is overpopulated. Here sit old ladies knitting and old men nodding, here bloom the loveliest flowers in the best kept beds, here are lawns, walks, drives, everything one can ask, and over all broods a hush. After twenty-four hours we drove down hill gladly, since in a pilgrimage to Nowhere one wants fewer people and a less rarified atmosphere.

The ride across country back to the Hudson took us through many quiet villages, past white farm houses, red barns, and grassy sidewalks. I stopped the carriage once to take a picture of a dear girl, who I hope was not a city boarder, as she stood in a row boat, her face turned from me. Her reflections at twilight were not interrupted by the click of my shutter, and I dubbed her my Lady of the Lake.

In the heart of this Arcadia, just as Incognita was hoping neither the sound of pingpong nor the call of the telephone would break the quiet, athawart the stillness which no one could have cut with a knife, from behind a rattling green paper shade came the strident voice of some one evidently returning from a sleigh ride. It was midsummer, yet the sleighbells jingled and we shivered.

"Goodbye, girls, goodbye."

"Oh, George, now, don't."

"Ha, ha, ha."

THE LADY OF THE LAKE.

"Goodbye, goodbye, we've had a lovely time."

I looked at Incognita, she looked at me, and the shoulders of the proper English coachman shook. We had heard a gramaphone.

"Drive on, Jeames, drive on," commanded Incognita, equally displeased with the sound of modernity, with my ribald mirth and the uncontrolled movement of the drab shoulders of her retainer.

I confess to a weakness for taking girls' pictures, and it was with regret that I now missed a half-dozen lovely young things on a tramp, but one I caught, standing on a rock, herself a kodaker and I sighed as I said

> "Fair maiden, when I look at thee,
> I wish that I were young and free,
> But both at once, ah, who could be?

We passed through the historic town which the British burned in 1777 at sunset, when the old stone houses glowed in the sunset. The canal reflected the last rays of yellow light and looked in the witchery of twilight not unlike Venice. To me, there is something romantic about canals, although I am told on good authority that the language used on the boats is unfit for publication in any Sunday school book. Once, I spent a delightful day on a tow, going up the Hudson, and found society on these floating cities as full of cliques as in any landlocked town, the ropes which unite the boats not serving in any way as social ties.

"We never visit the families on other boats," one woman told me, "as we never know who people are, and after breaking up at the head of the river, we might be sorry to have made acquaintances who would prove undesirable. One must be careful, you know."

Later, I learned if anybody's child or pet cat fell overboard, a not uncommon occurrence on these low, unrailed decks, all hands would rush to the rescue, but later, no one presumed on so informal an introduction.

I do not know how we missed passing through the town of Hurley, whither the women and children were sent when the Red Coats sailed up the Hudson to burn the towns, but I hummed the song my old Dutch nurse used to croon, the one which this feminine hegira of Revolutionary days has made famous:

> "Loop, jongens, loop de Rooje,
> Komme, Span de paerde
> Voor de wagen. en ry naer
> Hurley toe."

We slept well at the little hotel by the river, and I must not omit to mention the assiduous attentions of the nightwatchman, who brought us at dawn cups of tea sweetened to his taste, nor those of the hotel clerk which were even more intimate, the loaning of buttonhooks and other toilet necessities. nor the kindness of a pale young student who had come to "teeof" if one may so express it in another's pulpit. He insisted I should read the quarto Bible first, and gave the gratuitous information that the psalms of David would be found in the Old Testament. I was looking for the twenty-third psalm, as our drive by the still waters and green pastures had brought its music back to my mind. The city Minister wanted to look out a text suitable to a rural congregation. I gave him no advice.

At noon we boarded a river steamboat, and rested ourselves and the horse by a long delightful sail down the Hudson. catching glimpses of the distant Catskills passing under the Poughkeepsie Bridge, mistaking the State Insane Asylum for Vassar College and at last landing at the town where Washington had his last cantonment, where he put away ambition, and by refusing the dictatorship of the American Army declared forever we should have "No King but God." I thought this out while the coachman, assisted by advice from bystanders on the wharf put the team back in the shafts, and crossing the river by ferry we drove till darkness and rain came upon us suddenly along the eastern shore. Where the Highlands cross the Hudson, we stopped at a tavern at which Jeames audibly snorted, but choice there was none. As a matter of history, let me assure you we were handsomely received, and if we preferred the parlor floor to the host's own bed, we could blame no one. In this parlor we counted nineteen different useless articles of adornment on the piano, twelve on the mantel and twice twenty on the side walls. I think the ceiling was undecorated. Everything which was not fringed was trimmed with lace and there was nothing to which a piece of bargain counter ribbon had not been attached by careful hands. There were seven pillows on the sofa, and more in each, but what of this? We decorate more profusely than some other nations, why scoff at early art in a tavern, and admire it in the catacombs, for instance? We slept well, except for the gnawing of a rat troubled with insomnia and trying the contents of our lunch basket to quiet his nerves. At dawn, we woke to find the rain was over, and the lady boarders from Avenue A in adjacent Manhattan were on the piazza in red cotton shirt-waist and curl papers and with many babies. Underneath the high piazza we suspected a bar, for lying on hard benches were several men relaxed to a degree beyond any Delsartian art. Tall masts of scooners and sloops rose in the river against the rear background of the opposite hills and I, who boast the blood of pilots was photographed as a ship's figurehead by Incognita whose family have only written dictionaries.

We drove this fourth morning passed beautiful country seats and peeped over high hedges to see how the other half live. They certainly live well. At noon we stopped at a lake ten miles or more east of the river at an old-fashioned country hotel, where we had a midday dinner, and a hop in the evening, a row at sunset, full of evening sky and mosquitoes, and went early to bed to dream in our uncarpeted bedrooms the dreams of the summer girl of long ago. The dance music floated up the hard wood staircases and I saw with closed eyes those simple orgies below, when Betsey Ann danced with Betsey Jane because men there were none. In the morning after an American breakfast which did not stop at a cereal, a cup of coffee and fruit, a good breakfast of beefsteak, griddle cakes and potatoes, which patriotism and a good digestion help to enjoy, we cantered away from an admiring piazza of ladies. Jeames, a day's march nearer home, was exceptionally cheerful, and allowed me to stop many times for parting views, the last was of a water wheel which stood alone in a field. It reminded me of Heine's lonely fir longing for its mate, the palm in distant lands, so I photographed it and have since pasted it in my album opposite a millstream which I took on my first day's pilgrimage. A half hidden mill is behind the trees, which allows me to let my wheel sing the old song all wheels sing to all streams.

"Builded to answer a common need,
Clumsy and graceless in dingy dress,
I had been silent and lone indeed,
Save for your presence and faithfulness.

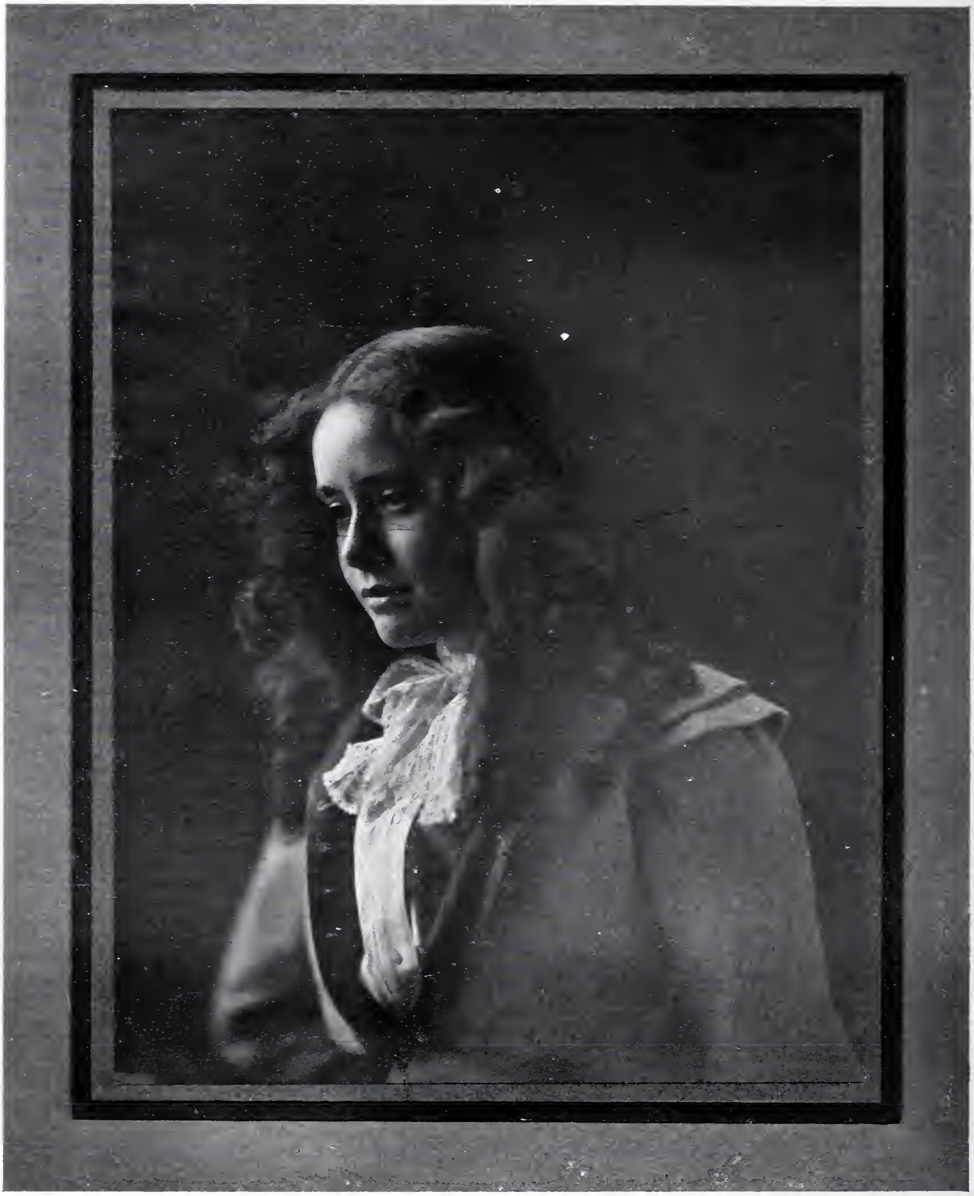
Sing a new song for me full of cheer,
Stronger, my comrade, and fate defy,
What though the labor be dull and drear,
It moves to music when love runs by."

Two hours later we reached Nowhere and called a halt. We were thirty minutes from Incognita's home by carriage, thirty miles and twice thirty minutes by rail from mine. By the calendar we had been away four and a half days, by heartbeats and the dial of sunny moments, four and a half centuries. I had forgotten the ordering of dinners, the answering of notes, the meeting of ladies' clubs, the dire necessities of making two ends of inelastic limitations meet and lap over, yet, here was Nowhere, and surely To-morrow had overtaken To-day.

"Good-bye," said Incognita, and she waved farewell cheerily as I descended from the trap, and camera-laden made my way to the trolley which was on its way to the station. Once, when in a funeral procession, a woman took a seat in our family sleigh evidently for the delights of the sleighride as she presently betrayed her lack of acquaintance with the deceased lady by asking "if we knew what ailed the man?" We put her out at the first corner with the information that we went no nearer her home, being of course as ignorant of the locality of her home as she was of the leading lady of the occasion. Incognita's parting with me was now equally abrupt.

"Good-bye," she repeated, still waving her white hand.

OFF THE DUTCH COAST. By Mrs. S. L. Coulthurst.



NINA. From an Ansco Platinum Print by Mr. Hord.

GETTING A START.

BY ALEXANDER VICNOR.

WHEN at length the young man has decided to make photography his life profession, and has selected the city or town in which he proposes to locate, there are certain things which he needs to bear constantly in mind, if he would make a success of his new undertaking. Chief among these is the fact that the beginner is quite likely to lose heart at the sight of the obstacles, real or imaginary, with which he finds himself confronted at first. The young are apt to be discouraged. This tendency of youth should be remembered, and avoided.

The first year of the young photographer's business career is sure to be the most trying epoch in his life history. It is the most critical, but also the most important, period of his lifetime. Many a young man, during the first season of his professional life, becomes discouraged and dispirited at his seeming lack of fortune, as he compares his circumstances with those of others about him, gives way to despair, and abandons what might otherwise have proved a useful and successful business career.

And the strange part of it all is that sometimes even the most brilliant and accomplished young men seem to share this failing alike with the more mediocre and indifferent. When the great lawyer and statesman, Rufus Choate, first made his professional start at Salem, Mass., he was suddenly seized with such an overwhelming awe at his own presumption and audacity at "hanging out his shingle" beside those of the older and more experienced lawyers about him, that he took it down after it had been out but a single day, and retired to a small village community, not far away, where he began practice. But his brilliancy and success soon called him back to Salem again, and the vicinity of the courts.

The young photographer should not be too modest about making a start. He has nothing to dread in so doing, for it is every man's privilege and duty to fill as large and important a place in life as he possibly can. He should not locate his studio in too obscure and unattractive a locality, but should take his stand in the front ranks and fight the battle of life side by side with the bravest.

The beginner should not stand in awe of the fact of his comparative obscurity at the start. He is quite unknown at first, as a matter of course. This must be taken for granted. It could not well be expected to be otherwise. But this should not dishearten him, but, on the contrary, incite him to every endeavor to overcome it.

A great many fall back in the traces, and expect the public to assume the responsibility of searching them out and making something of them. This is of course fatal. The first few years of professional work must be devoted more than anything else to the task of overcoming this one obstacle. One must be on the watch day and night, in season and out of season, for the opportunity of bringing himself and his work to the attention of the public. For the accomplishment of this one end he must expect, and be willing, to labor, as he never did before.

Numberless ways of winning recognition and consideration in any community are sure to present themselves to one who is on the watch for them.

Not long ago I heard of a young photographer who made many friends and customers as follows: Immediately upon becoming located he interested himself in local historical lore. In the very heart of the town he discovered a building to which attached much genuine renown for the old-time associations connected with it, though its history was practically unknown with the villagers.

The young man at once acquainted himself with the facts, so far as he was able, developed a number of photographs of the building, and requested permission to tell his story in the public schools. The children were of course much interested in this bit of local lore, and much pleased with the photographs which were presented to them. The fame and name of the young photographer spread at once. He was invited to speak on a number of occasions in regard to his discovery, and, as a consequence, his list of customers soon grew to be a large one. Business was neither scant nor dull with him thereafter.

This is but a single illustration of how easy and naturally, and as the result of what merely fortunate circumstances success will come to the beginner, if he will but make an effort to induce the tide of patronage to turn in his direction. Now and then one will be heard complaining of the difficulty of winning recognition in this or that locality. But if the facts be inquired into carefully, it usually develops that the discontented grumbler has never made any effort or attempt to win his way or advancement. The communities are few indeed which are willing and anxious to place a premium upon indolence and shiftlessness. Everywhere the man of enterprise and independence is in demand; but the slothful and indifferent, nowhere.

If the beginner will but bear these few simple facts in mind; will keep up a brave heart and a stout courage; will not look back after having laid his hand to the plow, but keep manfully and resolutely at his undertaking, let nothing discourage him, but increase his endeavor with each seeming failure or discouragement, he will be sure of coming out with flying colors, no matter where he is located, or how disheartening his circumstances may at times seem to be.

HARVESTING. By Theo. J. Curren.

PHOTOGRAPHIC SUPPLIES AS A SIDE LINE FOR DRUGGISTS.

BY DR. HUGO ERICHSEN.

TO the average person a drug-store is a place to be resorted to only in case of accident or illness, a place the very mention of which is apt to recall unpleasant or painful memories. For this reason, probably, pharmacists found it expedient to add various side lines to their regular stock to make every effort to attract patrons at other times than when the twin angels of malady and death are hovering over their household. This led to the institution of the cigar counter in the drug repository, the addition of assortments of stationery and various toilet articles and the adoption of the soda water fountain and got people into the habit of making daily calls on the druggist and of depending upon him for things that were formerly considered outside of his province. While this may have impaired his professional dignity, it certainly helps to increase his commercial prosperity and hastened the attainment of that object for which all men enter business life. I believe it may be safely asserted that most pharmacies would be obliged to close their doors if restricted to the sale of drugs.

The value, both sentimental and financial, of side lines in the drug business being conceded, it remains to be seen how far this feature may be extended without giving offense to the professional and popular sense of propriety, beyond which a pharmacist may not venture without incurring universal condemnation. In the country the lines are not as tightly drawn as in the city and the rural public is accustomed to go to the pharmacist for books, wall paper, paint, jewelry and various other necessities that are foreign to the stock of the city druggist. The pharmacies in some of the large urban department stores have been cited as an analogous case, but the comparison will not hold. In the one instance the drug stock forms the nucleus around which the side lines are grouped, in the other the pharmaceutical department is of equal importance with the other sections of a large business enterprise and merely represents a drug-store transported into new surroundings and subjected to new conditions. But, though he be restricted in many ways, the city druggist may branch out in some directions without fear of loss of prestige. One of the most promising of these is the photographic supply business, including the sale of cameras. The profit on these goods averages nearly 50 per cent. Owing to the close competition the margin has been cut down in sensitized paper and films, but on cameras and the chemicals required in photography it is still large and yields a good return on the amount of capital invested.

It may be argued that the sale of a camera consumes considerable time and that the return is insignificant when this is taken into consideration. So it does, but the purchase of a camera by an amateur is only the beginning of his patronage. He will require plates or films, developing and fixing solutions, paper, toning solutions, etc., and the aggregate profit derived from his untiring experiments in the dark art is very great. It is a well-known fact that the camera fever is progressive. It begins in a modest way. but extends by leaps and bounds. I know this by my experience. The first camera I purchased was a cheap single lens affair, costing only $2. How I ever managed to take snapshots with the thing passes my comprehension, but I did. I took the plates to a photographer to have them developed and prints made. Next I gave this camera away and acquired a No. 1 $25 kodak, which I took along to California. On my return I had the films developed and prints made, as usual. But the purchase of a $15 4x5 Hawkeye determined me to do my own developing and printing and seriously interested me in the photographic art. To cut a long story short, in time I disposed of the kodak and Hawkeye and now have three cameras, a 5x7 view, a 4x5 folding cycle, and 3 1/2x3 1/2 film, with a corresponding quantity of accessories.

There is one other point that should not be lost sight of in this connection, namely the fact that persons going regularly to a pharmacy for their photographic supplies will become accustomed, in the course of time, to extend their patronage to the regular drug line. And when one considers that impecunious persons do not buy photographic apparatus to explore the mysteries of the dark art, it is plain that this means a gain of a desirable class of customers, people who are abundantly able to pay for whatever they may purchase.

The question naturally presents itself whether the druggist must not possess practical knowledge of photography in order to be able to sell the apparatus and chemicals employed in it to the best advantage. While this is desirable, it is not essential. A theoretical acquaintance with the rudiments of the art-science, including the various steps from the exposure of the plate to the completion of the final print, may be easily acquired from one of the many handbooks on photography. But a practical knowledge is valuable, because the amateur naturally turns to the

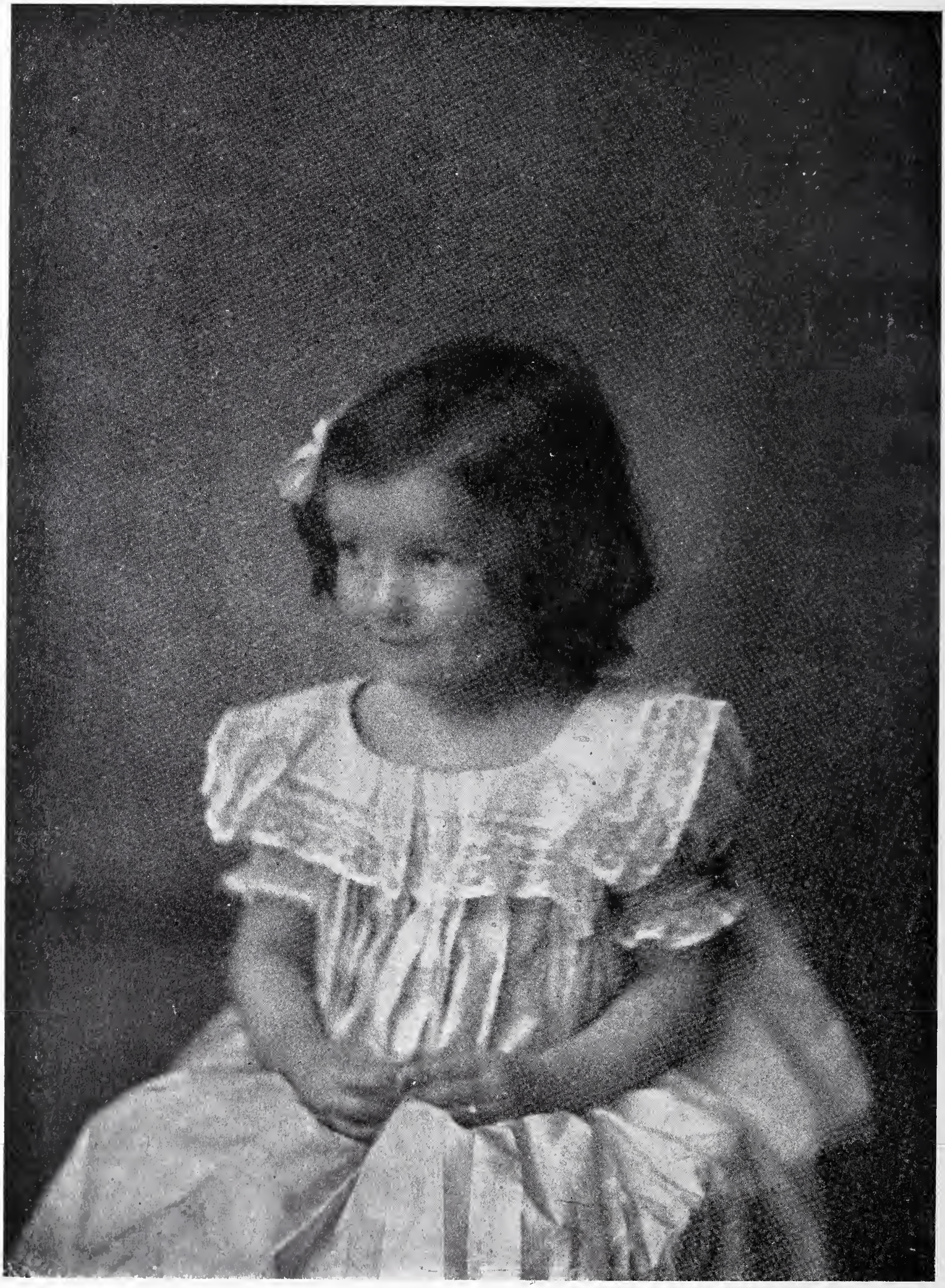
ON THE COMMON. By W. A. I. Hensler.

druggist for advice in the many dilemmas into which he gets by inexperience. Moreover, by his example, the apothecary may get his amateur friends to follow in his lead in the use of some novelty. A number of good prints of familiar scenes exposed to public view on a show-case, for instance, will stimulate the buying of the paper on which they were made to a wonderful extent. A season's experience with a hand camera will be sufficient to enable the pharmacist to answer all queries that are ordinarily propounded. But it should not be inferred from this that it is necessary to defer the purchase of a stock of photographic goods until a practical knowledge of photography has been acquired.

As a rule it does not pay to maintain a dark-room in connection with the store, as patrons will unnecessarily take up the valuable time of the proprietor and clerks, insist upon using the convenience provided free of charge, and get into the habit of extending their expectations gratis developers and fixing solutions. In exceptional instances it may be advisable to establish a dark-room to gain the patronage of an amateur camera club, but in such cases it is much better, if possible, to set aside a room adjoining the store, and connected with it for the purpose than to give up valuable space in the store itself.

The class of goods it will pay to keep depends, of course, upon the location of the pharmacy and the character of its patrons. Usually a medium priced stock proves most remunerative. By that I mean a line of cameras retailed at from $8 to $25, including a few 4x5 magazine cameras and 4x5 and 5x7 film and plate folding cameras. As for developers and various other solutions, the druggist will find it profitable to prepare these himself, but he will also have to carry in the stock the products of well known manufacturers in order to supply the public demand.

MAUD. By Worsley Benison.



PLEASE.

From a Gum Print by Mr. Hord.

By Guido Rey.

THE WASHING OF PAPER AND PLATES.

BY J. GARDICKS.*

LUMIÉRE BROS. and Seyewetz have made an extensive study regarding the removal of fixing soda from paper and plates by washing, and their manner of working and the results agree exactly with our investigations, as published in the "Wochenblatt," pages 137, 171, 233 and 241. We found also, that the fixing soda contained in the film, is reduced rapidly with every change of water, and that a great deal of water has been wasted unnecessarily, because a wrong mode of washing was usually applied. Lumiére Bros. commenced their labors with aristo and bromide of silver papers. A single fixed picture of 13 x 18 cm. was washed several times, each time with 500 c.cm of water. But comparative tests proved that 100 c.cm. would accomplish the same thing, and this was the quantity applied for the future experiments. The most advantageous time of action was also determined. By comparing a washing duration of 5, 10 and 20 minutes, 5 minutes were found to be sufficient for every washing, as in 10 to 20 minutes no more will be extracted than in 5 minutes. The quantities of the fixing soda contained in the wash water were determined by titrated iodide solution and starch. The 13 x 18 cm. picture, after leaving the fixing bath, was dried with blotting paper, 100 c.cm. of water were poured over the same several times and each water was left to act for 5 minutes. Each wash water was then mixed with a cooked starch solution, and iodide solution was added drop by drop, until the blue color became stationary. From the quantity of iodode solution the quantity of fixing soda was calculated, which was contained in the water. This gave the following figures:

Number of washwater.	Required quantity of Iodide sol. in c.cm.	Corresponding fixing soda in gr.
1	355	0.440
2	18	0.0223
3	3.9	0.0048
4	1.6	0.00198
5	0.62	0.00075
6	0.5	0.00062
7	0.25	0.00031
8	0.125	0.00016

These figures show, that already after the second washing the extracted quantity of the fixing soda was only 1/30 of that of the first water, that the quantity decreases rapidly and is so small in the seventh water that practically it can be overlooked. If the picture is left to drip off after fixing, the first wash water will contain 0.558 gr. fixing soda, but with the sixth wash water the proportions are equal between the dried and the dripped off picture. The proportions are the same, if the picture is washed superficially only, or not at all before toning. If the washing time is reduced to one minute, the washing will not be so complete, as in the eighth washing 0.0013 gr. fixing soda will be found. For pictures now washed at the same time in a tray 24 x 30 cm. with 10 times the quantity of water, therefore 1 liter was poured over each picture. They were kept in motion for 5 minutes, then taken out and left to drip off. This resulted in the following figures:

Number of washing.	Iodide Solution in c.cm.	Fixing Soda in gr.
1	302	0.375
2	22.5	0.0279
3	2.9	0.00359
4	0.87	0.00107
5	0.75	0.00003
6	0.5	0.00062
7	0.25	0.00031
8	0.125	0.00015

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* Translated by Henry Dietrich.

As well with single pictures as in large quantities, there was used therefore with this mode of washing for each 13 x 18 picture 7 to 800 c.cm. of water A picture was now placed in a tray under running water for 20 minutes. The fourth furnished 7.5 liter of water in a minute, that is, 150 liter of water were used. The picture was now put into a tray and 100 c.cm. of water were poured over the same. After 5 minutes it was examined. It required 1 c.cm. iodide solution and was therefore in the same conditions, as the pictures previously after the fifth water. This proves, that the largest quantities of water do not accomplish more than smaller ones. Even if the picture was placed upon the reversed bottom of a tray and each side exposed to a stream of water for 10 minutes, the result remained the same. An important fact was discovered. If a picture is completely washed out by changes of water and is then taken from the water and squeegeed, fixing soda can be proven yet in the drippings of water pressed out, which was therefore not removed by simple washing. If a dry plate is washed in a similar way and the film is then scraped off and pressed out, the water so obtained will contain no more fixing soda. This shows, that the fixing soda is more stubbornly held back by the paper fiber than by the gelatine film. To effect now with the least possible quantity of water and loss of time a complete washing, the following process, combined with pressure, was applied: The pictures are watered in a tray containing 1 liter of water for 5 minutes, and are kept constantly in motion. The water is then poured off and the pictures are pressed out with the hand. A small quantity of water is then poured upon the pictures; they are taken from the tray and pressed between two sheets of blotting paper with a squeegee. This operation is repeated seven times.

The different processes during washing were now tested: 1. A plate was placed on a tray, bottom up, and left for 5 minutes under a stream of water, which gave 37 liter during this time. The plate was then put into a tray, 200 c.cm. of water were poured over the same and it was left standing for half hour. In 100 c cm. of this water the fixing soda was determined with iodide solution. 2.2 c.cm. iodide solution were required, corresponding with 0 00272 gr. fixing soda. 2. The plate was then placed in a tray and exposed to a stream of water for 5 minutes, the water running over the edges of the tray. Treated in the same way as number 1. 4. 4 c.cm. iodide solution, corresponding 0.0054 gr. fixing soda were required. 3. Five washings with each 200 c.cm. of water within 5 minutes each. This resulted in a time of 25 minutes and a water use of 1 liter. There were required 0.4 c.cm. iodide solution, corresponding to 0.0005 gr. fixing soda. Modus No. 3 has therefore enabled a complete washing out, which in modus No. 1, generally applied by photographers, ten times as much fixing soda remains in the plate, although 37 liter of water were consumed. It will be seen therefore what quantities of water are unnecessarily used.

QUAKING ASPENS. By H. G. Dorsey.

FLASHLIGHT PORTRAITURE.

BY WM. S. RITCH.

No. 5.

SEE, papa, what Mr. R——— has given me for a birthday present; a little camera."

"Why, Harold, isn't that fine, now we can take pictures of the baby and brother and sister, and we'll make some fine ones, I'm sure."

"See baby now," said Harold, playing on the floor; "wouldn't that make a nice picture? Let's try it."

"Well, here is a little book giving instruction how to use the camera. We must read that first, and then we'll go to work and take her in all sorts of poses, sitting with mamma, playing on the floor, eating her dinner in her high chair, etc., etc."

"Such are our aspirations when we first come into possession of a camera and before we know its limitations, but alas, our dreams are not so easily realized. We can draw beautiful pictures from our own imagination, but to make them on paper by means of the camera is something more than pressing the button, even if our professional friends do the rest." The above conversation actually took place between the writer and his little son about two years ago, and, after a year of persistent effort, we had two or three passable negatives which were almost satisfactory. They were even as good as made by the average professional photographer, but for that very reason they were not what we wanted. We wanted life and action in our pictures, not a set pose such as is required with a time exposure, and we wanted soft lighting and pleasing shadows, which we could not get by placing the subject in the broad sunlight and making snap shots.

We had learned that to accomplish anything difficult it can be done only by persistent thinking, so instead of going ahead spoiling plates and film or throwing up the whole thing altogether, we set to work to think how this thing could be accomplished, and after about a year of good hard thinking—during which time the pictures shown with this article are a few of the results obtained —we are still thinking harder than ever how we can get even better pictures than these. If amateur photographers would only learn this lesson that it is the mind which does the work, and that it is only by using our brains that we can do anything worth doing in this line, the results obtained would certainly be incomparably greater than at present, and the man with a camera would be looked upon as an artist instead of a camera fiend. Well, what we wanted was a quick exposure in a soft lightinside the house, and our investigations led us to purchase a number of the "Photo-Miniature on Flashlight Photography." We had seen flashlight pictures made of soot and whitewash, and with the eyes either half closed or with an unnatural stare, but the pictures in this little book were really beautiful, and the directions so simple and clear that we determined to try it; and, to follow the directions as closely as possible, we purchased some Cramer Isochromatic Instantaneous plates, some backing material, some Eiko-Hydro powders, and some cartridges of flashlight compound put up by Scovill & Adams. The evening that these were brought home, upon looking through a door after dinner, we espied the two little ones at work at their desk, the boy guiding the hand of his little sister in her efforts to write. Without saying a word we brought out our camera, focused, set the powder in a dust pan in what we decided was the proper place, and then telling them to go on with their work and not mind us, we took the picture by putting a match to the fuse. Upon developing the plate according to the directions we had just read, we obtained the negative of the little picture, No. 1 of our illustrations. It seemed very simple, but it was because everything was just right, that we obtained so good a picture. We went right into the business after that, and took a number of pictures, many of which were failures, because some little thing which should have been done had been neglected. After a short time, however, we were able to get a good negative every time, because with a little experience it is easy to tell just about how much powder to use so that the exposure is always about right, and after you get the desired effect in one negative it is a simple matter to use the same developer every time in the same way and get the same effect.

No. 1.

We have been asked to give the readers of The Photographic Times-Bulletin the benefit of our experience in this line, and we will try to give a few simple directions which will enable anyone with a fairly good camera to make a start in this branch of photography.

We have always used Luxo powder, and generally use the quickest of isochromatic plates. We have obtained beautifully soft effects, however, on celluloid film. We back our plates with Acme Halation Destroyer and use a flash lamp with a 10–foot length of rubber tubing with a bulb, which enables the operator to place the light wherever he desires and take his own position

No. 6.

beside the camera, holding the bulb for opening the lens in one hand and the lamp bulb in the other, pressing the first to open the lens, the second to make the exposure and the first again to close the lens. This can all be done very quickly, but the length of time that the lens is open has nothing to do with the exposure, the exposure taking place only during the flash. We do most of this work in the evening after dark, but if done during the day, all daylight must be excluded from the room, and the gas lighted as if it were night. Do not take a flashlight in a dark room, or you will surely have staring eyes. We have found that the more artificial light we have the better, generally two good gas jets will be sufficient, but if the room is not well lighted the contrast between the light of the room and the flash will be so great that it will make a staring effect in the eyes. Among hundreds of pictures which we have taken only one has this stare, and that was in a room where we had no gas and could only obtain two kerosene lamps, which proved to be not enough light The artificial light in the room will have no effect on the plate unless the lens is left open a very long time. We often leave the lens open as long as a minute without a particle of injury to the plate. Of course the gaslight must not be in the picture, nor the flashlight either. Otherwise the flashlight can be placed anywhere in the room, but the worst possible lighting would be that generally made by amateurs by placing the light behind the camera, a little to one side and a little above. We place the lights in all sorts of positions to get different effects, and that is one of the advantages of the flashlight that we can get any lighting whatever by simply changing the position of the lamp.

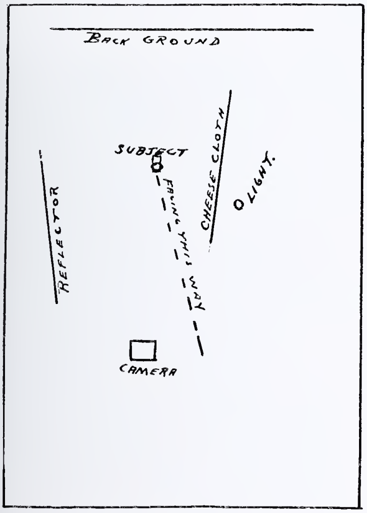


DIAGRAM A.

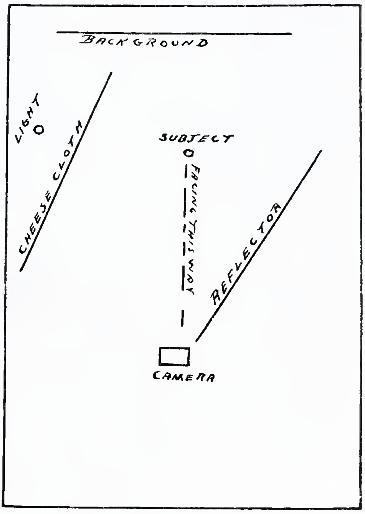


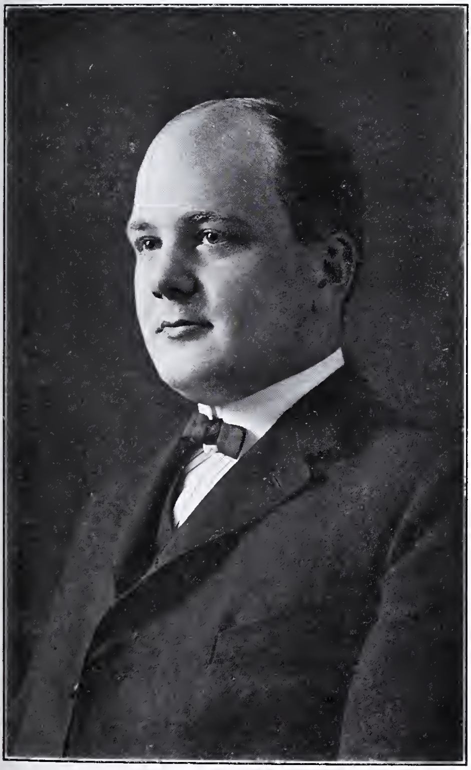
DIAGRAM B.

Diagram A will show how the light was placed in making illustration No. 2, and diagram B in making illustration No. 3. The light in each of these was about 5 ft. to one side of the subject, and in diagram A about 1 foot in front, making quite a shadow on the other side of the face, which was softened by the reflector. The light should be three or four feet above the head of the sitter so that it falls on the face at about an angle of 45 degrees, the same as a top light in a studio.

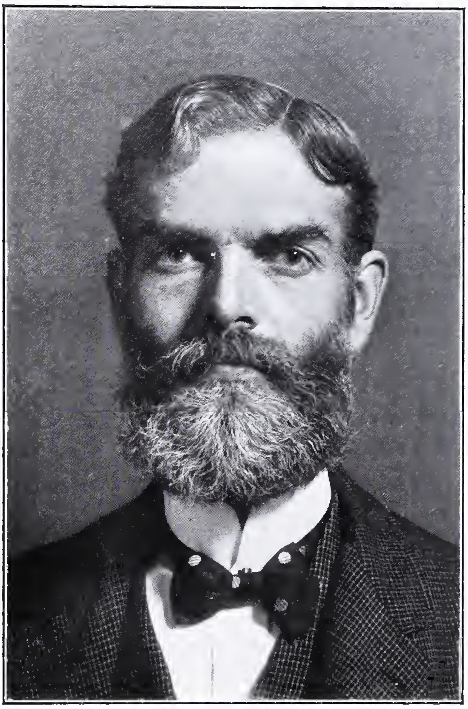
Illustration No. 4 is a portrait of the writer taken by himself. The first three pictures were made with the double

No. 2.

rectilinear lens of a kodak but coming into possession of a Korona camera with a rectigraph lens, we thought we could do better work by using the back combination alone. As we had no one else to experiment upon at that time we took this picture and found that we could get a larger head with better perspective and softer lighting, so that retouching was hardly necessary, and very little more powder was used. Illustrations Nos. 5 and 6 were also made with the back combination, and the light was placed as in diagram A, except that it was about three feet in front of the sitter instead one foot. In regard to the development of flashlight negatives, we must remember that as this is a concentrated light, there is danger of getting the high-lights too strong and the shadows too weak, making a contrary print of the soot and whitewash order; but if we use a developer which is good for bringing up detail and dilute it well, so that time will be given for the shadows to come up, by careful manipulation we can obtain results which will show no signs of the flashlight, but are really much better than any but the most expert can do with daylight.

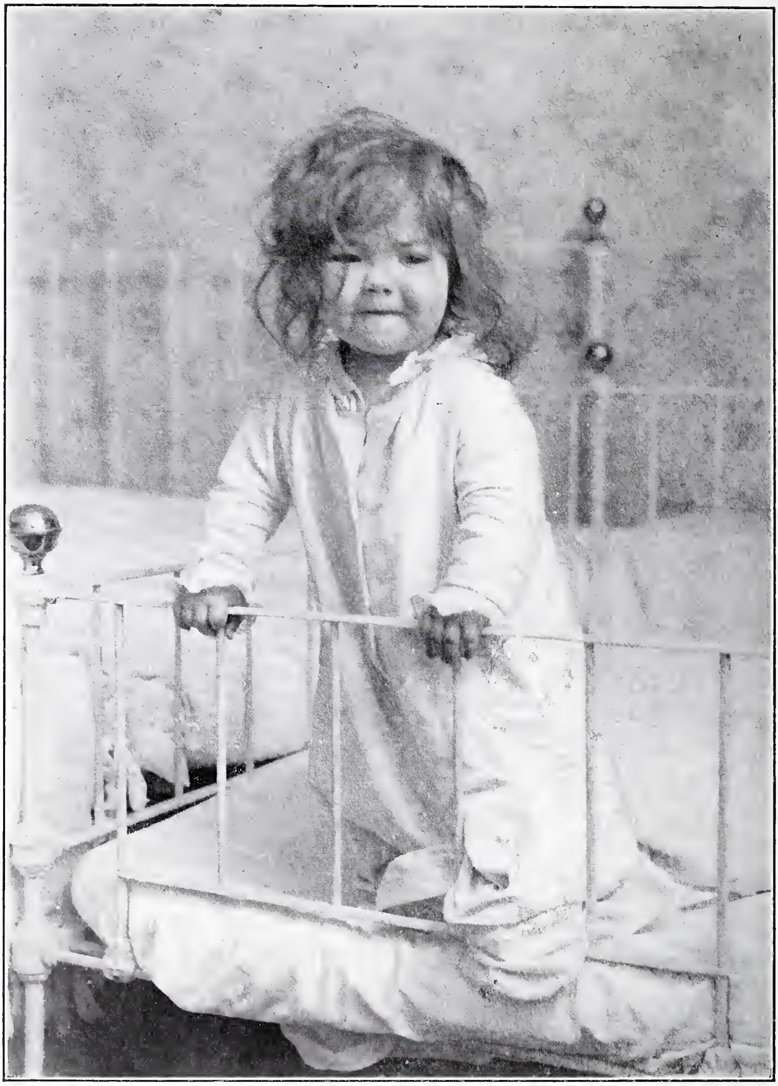


No. 3.



No. 4.

We have always used a developer of Eikonogen and Hydrochinon of three or four parts water to one of normal developer, so that it takes at least fifteen or twenty minutes before development is completed. With this slow development care should be taken to expose the negative to the red light of the dark room as little as possible, so we place the tray in a thick pasteboard box, see that the plate is well covered with developer, place the cover on the box and rock gently occasionally, while we take up another plate and tray and do the same. After a couple of minutes we glance at the plate for an instant, but do not expect to find anything; if the image has come up well we would remove the plate from the tray and put it in a tray of clear water, when the detail in the shadows will come up, but the density will not make much further headway.



GOOD NIGHT.

IMPROVEMENT IN THE SEPARATION OF THE LINES OF THE DESIGN FOR THE ENGRAVING OF PLATES AND OF PRINTING CYLINDERS.

BY M. A. VILLAIN.

I MAY say that this process is a simplification of the process of Captain Biny, of which the following is a short description, given after the *Bulletin de la Societe Francaise de Photographie* (June 1880.)

"One takes an ordinary zinkographic plate, inked on its bitumen, and even gummed ; one passes it quickly into a diluted solution of nitric acid, while rubbing it with a soft brush so as to clean it ; it is then washed freely with water, and, still wet, it is dipped into a coppering bath 'au trempé,' very easy to compose. It is left there from five to six minutes only, the zink is covered with adherent copper on all parts which are not protected by the bitumen of the design. When the whole surface of the zink, originally bare, presents a fine blood-red aspect, the plate is withdrawn and placed in a tray with a little pure benzine, and by rubbing the bitumen with the help of a small brush it is entirely removed from the plate ; the design appears now shining white on a ground of dull red copper. When the zink is entirely freed of all varnish on the picture, one directs upon its surface a strong spout of water, in order to drive away every trace of benzine and one rubs it then with a rag or a sponge in a bucket of water.

This being done, and without drying it, one places it into the same bath of very diluted nitric acid which served for its cleaning, and one will notice now that the zinc, the only uncovered part of the image, is corroded while the coppered surface resists the action of the acid."

The process which I am going to describe can be applied as well on any other metal as on zinc, and even on lithographic stone.

After inking the plate, or even without inking, if the transfer or the design produced is still fresh, I mean to say, if the ink has not dried, the plate is placed upon a slab so as to give it a level position, and one pours then on its surface a solution of gelatine in weak doses, from 2 to 5 per cent. One might also make use of modified glue or of any other colloidal product.

All greasy parts reject the watery solution, which adheres at the places where the metal is bare ; one lets dry at low temperature or one dries it at the open air ; one passes then the plate into a solution of formole, from 2 to 5 per cent. The use of formole can again be suppressed, it has for its object only to give to the gelatine a greater resistance for the ulterior operations. One might even add to the solution of gelatine or of the colloid chosen any desired quantity of bichromate potassium ; after drying and exposure to light, the gelatine thus bichromated will produce a greater resistance to the chemical agents of the baths following.

The plate having been thus treated, that means to say, covered with gelatine, modified glue, or bichromated, or treated with formole, etc., at the places not inked, one passes over its surface a cotton plug impregnated with benzine or, better still, one places the entire plate into a tray containing benzine ; the inked parts become clean and the metal is set bare. When this operation is finished one lets the benzine evaporate, and, if possible, one rinses it off (if formole has been used or if gelatine, bichromated and exposed to light, has been employed). One puts the plate then, for a few seconds, into a weak solution of nitric acid or of any other acid, in accordance with the metal employed, or better, into a solution of perchloride of iron at 40° Bé. When it is deemed that the engraving has become sufficiently pronounced, one rinses it off thoroughly, in the cold, dries it then by fanning and inks it anew. One removes the reserve of gelatine and proceeds with the printing.

This proceeding can be applied, as it were, in an inverse manner. If one has to do with a proof produced on zink by bichromated gelatine or bichromated albumim, one moistens, as well as possible, the design or traces obtained, or one pours, immediately after the delivery of the proof, upon the surface of the plate, a solution of a fatty body or simply Jews' pitch dissolved in benzine; the pitch adheres wherever the zink has remained free. One places the plate to be tempered into water containing a few traces of any alkaline substance and cleans the metal, with the help of a cotton plug from all traces formed by the gelatine or the albumine. One proceeds then with the etching, one rinses it off when one thinks it sufficient; one dries, one inks and one cleans the plate, that means, one frees it of the pitch, and one proceeds with the printing.

The weak layer of pitch which sometimes covers the gelatinous traces, does not disturb at all the regular process, for it is sufficient slightly to rub with a cotton plug, in order to remove it together with the layer of gelatine.

This process can be utilized for the engraving of the printing rollers which are used by the printers of colored fabrics. It can modify, if not improve, the process patented by Defsy which consists in forming on the copper roller a galvanic deposit of nickel or of cobalt wherever the transfer of a design made with a fat ink has left the metal bare.

One transfers a design with fat inks upon a metal cylinder well cleaned. One can obtain this transfer mechanically or by the processes known and in daily use. This counter drawing having been obtained, inked and retouched —if that is considered necessary (as in the ordinary lithographic processes) one impregnates those parts of the cylinder which are not covered with the fatty design, with a solution of gelatine or of bichromated liquid glue. This impregnation ensues very regularly, and the gelatine adheres to the cylinder only on the metallic parts which are not covered with fatty ink, either by turning the cylinder about, on the surface of a bath of bichromated gelatine, or by dipping the cylinder entirely into the bath and making it then turn, in order uniformly to distribute the excess of liquids. One lets dry, one exposes to light. The exposure to light being terminated, (an excess of it does no harm,) one passes over the cylinder a cotton plug impregnated with benzine, one removes thus the fatty design which was originally transferred. Now, the metal is bared wherever the design was before. The reserve is then formed by gelatine or bichromated liquid glue, which will resist the action of the engraving bath. One proceeds with the engraving, either with perchloride of iron or with nitric acid. One rinses, and one cleans the cylinder completely in an alkaline solution, which removes all gelatine which formed the reserve.

The design is engraved in hollow form on the cylinder.

It is of course understood that there is nothing to prevent the baking of the gelatinous reserve as in the "Enamel Process." Such baking must give a greater solidity to the reserve obtained.

A DESERTED MILL. M. Arbuthnot.

THE LATE OSCAR PACH.

OSCAR PACH.

IN the early hours of Friday morning, March 6th, Oscar Pach, of the widely known firm of Pach Brothers, after an illness of almost a year's duration, entered into eternal rest. Bright's disease was the cause of the illness and its fatal termination; and the big strong man, who had hardly known a day's illness in his life, and who had been in the thick of the fight in nineteen battles of the Franco-Prussian war without receiving a serious injury, gave up his active business career and gradually wasted away until his friends could hardly believe it was the same man.

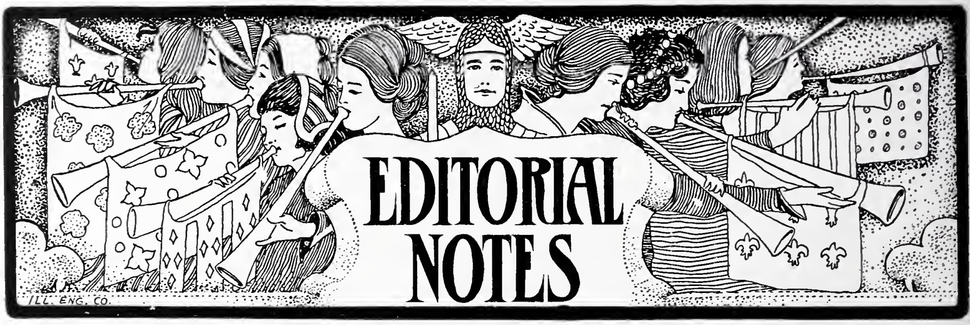
Oscar Pach came to New York to assist his brothers, Gustavus and Gotthelf Pach, in 1873, and he soon mastered the English language and the details of the business, which gave his brothers greater opportunity to oversee the technical part of the business, and Oscar Pach became the business manager and financial head of the firm.

His suavity and geniality won the firm many friends, and all who came in contact with him treasure the memories of his kindnesses and his even temper. He was liberal in his charities, though not even his own associates knew the extent of his benefactions. He was a tireless worker, and, when on occasions he took a vacation, no one was surprised to see him back at his desk before half the allotted period of rest had passed. In all transactions he was the soul of honor, and his word was as good as his bond. He never married, and, like most bachelors, found in his club his great recreation.

Besides being a member of the Progress Club and the Society for Ethical Culture, he was a member of a fraternal organization. It has been the custom of his brothers to have a family dinner on his birthday on January 19th of each year, and on these occasions, surrounded by his brothers, sisters, nephews and niece, he was always happiest. The last of these reunions in honor of his fifty-fourth birthday was held at the Hoffman House only two months ago.

Besides his brothers Gustavus and Gotthelf, two other brothers, Morris and Bernard, and two sisters survive him. All of the six brothers arrived at manhood, and for forty years the family circle has been unbroken, the only one to pass away was a brother, Louis, who died of typhoid fever due to life in southern army camps, after an honorable career as a soldier, and is buried at West Point, New York.

Dr. Felix Adler delivered a touching address at the funeral services, and Dr. Elliott officiated at the grave in Cypress Hills Cemetery on Sunday afternoon, when the remains were laid to rest, covered with the floral tributes of many sorrowing friends.



EDITORIAL NOTES

The passing away of Frank L. Schafuss brought sorrow to the hearts of his multitude of friends throughout the country.

Frank Schafuss' word was as good as his bond and his honest and upright life will insure his living in the memory of those who knew him.

The firm of F. L. Schafuss & Co. was founded some four years ago by Frank L. Schafuss, his father and his brother, Ted C. Schafuss. Beginning the manufacture of albums in a small way, the business has now grown to large proportions, largely through the untiring efforts and keen business ability shown by him.

The business will be continued under the same name by his father and brother.

* * *

Don't you like to sit down sometimes and think of when you were a boy, and all the good times you had?

How precious these mental photographs become! Wouldn't it be jolly if some Marconi or Edison of photography would invent some process of reproducing them? How vividly these long past incidents and surroundings come back to you. When you played "hookey" from school, and the whaling you obtained as a reward—(perhaps you would not like to have this last reproduced).

How you used to "hook" the farmer's apples and his water-melons. How good such fruit used to taste? Wouldn't you like to find the same flavor now? Will you ever forget the old swimming hole, and the hole in the bank where you used to hide your clothes so some of the other boys couldn't find them and tie the sleeves of your shirt in hard knots, and make you "chaw beef."

Did you ever place a tick-tack upon somebody's window at night, and see that "somebody" issue wildly forth hurling maledictions upon your invisible head.

Those boots you used to wear in the winter time, how hard they used to get after you had been playing in the snow all day; and the piece of tallow and the rag with which you used to dope them before you went to bed. Do you remember them? Do you?

And your first sweetheart! You could never forget her. Wasn't she nice? How your breath used to come in gasps, and what a funny little feeling you had in the pit of your stomach whenever you approached her. How you used to fall over your own feet and grow red in the face whenever she addressed you. And you knew you couldn't live without her—but you did. And say, do you remember the first time you kissed her. Its dollars to doughnuts you aimed at her mouth and kissed the end of her nose, or the back of her head.

And don't you hate to wake up and find that you are a man, and the rent due next week!

"A friend of one of our contributors walked into the Editor's office the other day with a request that we give our attention to what he called an 'Anti-camera crusade.' He informed his patient auditor that his small son had lately become possessed of 'one of those devilish kodak things,' and now, by the great horn spoon, he wanted to study art! It was mildly suggested to the irate parent that sons have, on occasion, done worse things, but a muttered maladiction was the only result. He did not give us time to tell him what we really thought of the matter, so we are going to do it now.

"In our opinion, there is no greater factor to-day than the camera as a means of education. We do most emphatically believe that the closer man gets to nature the more he knows, the better citizen he makes and the more competent he is to bear his part as a unit in the great machine humanity.

"And the camera is the thing that sends a man out into the country, that makes him walk and look—not walk and think about his business. It sends some of its devotees down close to the ground for insect pictures, others it makes climb trees for birds, to others it holds out inviting hands calling them where ocean breezes blow and to one and all it exercises a fascination and a mysterious charm which breeds, often from nothing, an appreciation and love for the beautiful without which no one can truly say 'I have lived.'

"In education the camera is a bigger man than the superintendent of schools. Bringing far scenes to the text-book page for the edification of the child to whom pictures are everything and print a to-be-avoided evil, telling a story in scenes from the north or south and making real to little minds the difficulties and dangers which the explorers and the vanguard of civilization have to face, it is playing a part in the better education of mankind that may well require an admiration and a reverence but little second to that which the world pays to the inventor of letters and of books.

"So to that dissatisfied father whose son, of sixteen, was so broadened that he knew his ignorance and asked for an art training, and to all that multitude of parents whose children use the camera to the alternate amusement and disgust of the household, we would commend a little educational reading, a subscription to a photographic magazine and a careful repression of oppression of the camera. It does no harm, it does great good—it is not a waste of time—it is an educational recreation, and last, but not least, it is not a 'monomaniacal pursuit,' but a broadener and deepener of the mind, and as such is to be encouraged and smiled upon.

"Daguerre, Salutem!"

The above editorial by the editor of the *American Inventor* is most timely, the camera is certainly a great factor in education and we know of no pleasanter means of bringing the young and growing minds in touch with nature and the beautiful. Cultivate a love for the beautiful and you increase refinement, with refinement comes the desire for education and a thirst for knowledge of all that will tend to make man more than a mere money grabber and interested only in sordid things. By all means encourage the boy in the use of his camera, aid him to become expert in its manipulation, study with him and when he arrives at man's estate he will not only be a better man for this education, but his respect and love for you will be increased many fold as he thinks of the many pleasant hours spent with you in gaining this knowledge.

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CYKO PAPER.

(The New Cyko.)

E. A. T.

SOME years ago, when the developing papers made their appearance, we first became acquainted with them by reading sundry little booklets telling us how much time we would save by using the new papers, how we could print in a few seconds and develop in a few more—how we could make prints at night, printing by any light, and without shutting ourselves up in a dark-room. It all seemed very beautiful, almost too good to be true.

We could not resist the temptation to try the new paper, and as this process of making prints was quite different from that to which we had been accustomed, we found we had a few things to learn about it. Some of our prints were yellow and we traced the fault to the fixing bath. Others were fogged, and still others were of a disagreeable greenish tone.

By repeated failures we mastered the language of these indications. We learned the importance of fresh and not overworked solutions and pure chemicals. We came to know the extreme sensitiveness of the developer to small amounts of bromide and the necessity of making our exposures with the greatest accuracy. But now this is only history. How many amateurs there are who do not know how to make any other kind of a print, and how many others who do not have time to make prints by any other process.

But during all this time what has the professional been doing? He has been going on in the old way, printing by sunlight and washing, toning, etc., almost *ad infinitum*. Or he has used the simpler but expensive and delicate platinum process. Occasionally he would try a developing paper and then revert to his old ways.

You call him perverse. Well, perhaps he is, but if you look deeper you find there are real reasons for his perversity. When he printed in the sun, he could see how the results were progressing, and he could easily print every sheet of paper to just the right depth. In using the developing paper he had to guess the exposure. If he guess wrongly, though ever so little, a sheet of paper goes to waste, as well as time enough to have made a good print. Exasperating, to say the least. You say he can try his negative with a slip of paper. Yes, so he can, but it takes time, and besides, it is much more difficult than it seems, to estimate the appearance of a whole print from that of a small piece of it. But this is not the only reason for the professionals waywardness (?). After the prints are made, and made with the greatest care, they are inferior to those on the sun printing paper.

Although they are harsh and contrasty in the half-tones, the highlights and the shadow portions do not seem to have contrast enough. Besides this, we find that even the softest working developing papers are much too contrasty for artistic prints from ordinary negatives.

Now to explain why it is that every amateur who tries Cyko paper is anxious to use it further; and why the professionals, who could not use the other developing papers are rapidly adopting Cyko paper for their regular work.

We first notice, in using Cyko, the print developes slowly, and that any little error in exposure is corrected in the development and unnoticeable in the finished picture. To investigate further we find that the latitude is so great that when using Art Cyko, if 15 seconds is the correct exposure any exposure from 10 seconds to 20 seconds will give an equally good picture, the only difference being that the 20 second exposure developes in about 20 seconds, while the 10 second exposure will require a full minute for development.

On account of this great latitude it is easy to estimate the exposures required for different negatives so that every sheet of paper may be made to yield a good print, and that, too, without the necessity of testing each negative with a slip of paper. Nor is it simply in latitude that Cyko is superior to the other developing papers. The Cyko prints have this brilliancy in the highlights which has been lacking in previous developing papers and on Cyko, beautiful snow pictures and cloud pictures, as well as portraits, may be made. In general surface, and intensity of the blacks, Cyko is much superior.

The surface is a real velvety matte, without a trace of the disagreeable sheen often met with, and the blacks obtained are more deep and intense than can be obtained on any other photographic paper, not excepting platinum.

Nor are these all the advantages of Cyko paper. While the regular papers are quite contrasty, and give good prints from thin and flat negatives, the Art Cyko and Portrait Cyko are very soft. Not just a little softer, enough to give them a name, but very much softer, so that they may be used on strong negatives with good results. Art Cyko and Portrait Cyko are softer working than any of the other developing papers that are obtainable in this country. And if either of the grades is a little too contrasty or too soft for a particular negative, the paper may be made to give softer or more contrasty prints by changing the developer.

The developer for regular work on Cyko paper is:

Metric.		Apothecaries.
.25 g.	Metol	15 gr.
1 g.	Hydrochinone	60 gr.
8 g.	Sulphite soda (dry)	1 oz.
6 g.	Carbonate soda (dry)	¾ oz.
250 c.c.	Water	32 oz.

For Softer Prints:

1 g.	Metol	1 dr.
5 g.	Sulphite soda (dry)	5 dr.
3 g.	Carbonate soda (dry)	3 dr.
128 c.c.	Water	16 oz.

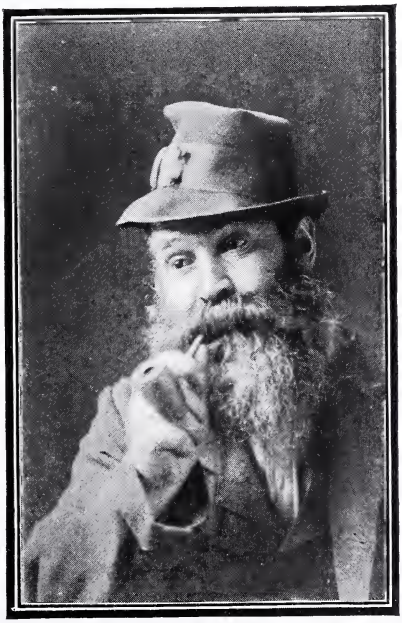
For Greater Contrast:

1 g.	Amidol	1 dr.
3 g.	Sulphite soda (dry)	3 dr.
100 c.c.	Water	12 oz.

Amidol developer will not keep and must be mixed immediately before use. With any of these developers bromide is added in the usual way, to keep the whites clear. With three developers and paper of two grades of contrast, it is possible to obtain six degrees of contrast on Cyko paper, and to do justice to almost any negative. For all ordinary work the regular hydrometol developer is used and the two grades of paper meet all ordinary requirements, but for the exceptional negative we are willing to take a little extra trouble and mix the special developers, in order that the print may have precisely the right contrast.

Thus in Cyko printing, we have a control over the result which can only be equalled by the control in the carbon process.

Cyko, with its truly wonderful capabilities, puts a new power into the hands of the photographic worker, and is surely sounding the death-knell of the sun printing papers.



A STUDY. By C. G. Badenfeld.

KATATYPE—A NEW PRINTING PROCESS WITHOUT LIGHT ACTION.

BY PAUL HANNEKE.*

A NEW and peculiar printing process, without any action of light, has been discovered by the Professor of Physical Chemistry at the Leipzig University, Wilhelm Oswald, and his assistant, Dr. Gross. Seven years ago the discovery of the Roentgen rays aroused the whole civilized world, and almost as surprising is now the first news about a hitherto completely strange and unknown method of picture production, by which, with the aid of simple chemical means, any number of prints from negative or positive pictures can be produced without the action of light in the shortest time. It is hardly necessary to mention, that this Oswald-Gross process is of eminent significance and opens an entirely new path to photography. Their process has been submitted to a public demonstration at Berlin and Leipzig.

The "Katalize" plays the principal part in this new printing process, therefore the designation "Katatypy." With Katalize the process is designated, that the duration, at which a chemical reaction takes place, can be reduced or accelerated by addition of certain matters, and that these will not suffer any change hereby. Such matters are called "Katalysators." The following described experiments will give a clearer idea of the process.

Dr. Gross first used platinum as katalysator for practical picture production. Bichromate of potassium and pyrogallic acid act only slow upon each other; gradually a brown body forms. But if a little finely distributed platinum is added, the reaction will pass in a much shorter time. If paper is now prepared with bromate of potassium and pyrogallic acid, and an ordinary platinum print is brought in contact with the same, the browning will proceed much quicker at those parts, where the pyro-bromate film comes in contact with the platinum, and after about forty-five minutes' action an exact print of the platinum picture will originate in red-brown color. The original platinum picture has remained thereby unchanged and this printing process can be repeated at pleasure with fresh pyro-bromate paper.

The hydro-superoxide (H_2O_2) is of particular importance for Katatypy. It is generally sold in aqueous solution. In the atmosphere it decomposes very slowly by emitting oxygen, but in the presence of finely distributed silver or platinum the decomposition proceeds very rapidly.

If, for instance, a negative print upon platinum paper is treated with hydro-superoxide, preferably with an etherial solution, it will remain intact upon the negative at the parts free from platinum, but at the platinized parts it will become decomposed and we obtain thus an invisible positive picture. If the platinum negative is now brought in contact with a gelatinized paper for a few seconds in the printing frame, the hydro-superoxide picture passes upon the gelatine film. This invisible print can be developed with Ferro Salt solutions, for instance sulphate of iron. A black print appears, which, by after treatment with certain solutions, will obtain the most variegated colors (gallic acid gives violet tones). An ordinary bromide of silver negative can also be used in place of a platinum paper negative.

The hydro-superoxide coagulates gelatine, and the Katatypy can therefore also be employed for the carbon process. Dr. Gross's experiments relating to the gum print process, were highly applauded. He produced actually perfect gum pictures at an extraordinary short time. The negative is flowed for this purpose with an etherial hydro-superoxide solution, brought in contact with Hochheimer gum print paper; the paper is then for a minute put into a sulphate of iron solution and is then developed in the well known manner in hot water with sawdust.

Aside from a few small technical defects that could be observed on some of the pictures on exhibition, like impure whites and the want of some of the finer half tones, there is no doubt, that Katatypy has a great future. The extremely rapid production of prints in most of the photographic processes without the medium of light are invaluable advantages of the new process.

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*Translated by Henry Dietrich.

PHOTOGRAPHY v. ASTRONOMY.

AT a recent meeting of the New South Wales branch of the British Astonomical Association, the retiring President, Mr. W F. Gale, whose name will be familiar to many of our readers as the discoverer of the "Gale Comet," delivered a very instructive and interesting address on the starry depths—or as he designated it, "The Application of Photography in Astronomical Research." The talented lecturer has been for some years an ardent lover of photography even as a pastime, and his knowledge of the art has proved of invaluable service to him in his study of the star-lit heavens above him.

The earliest experiments in celestial photography, stated Mr. Gale, appear to have been those of Dr. John W. Draper, of New York, who, in 1840, obtained some moon pictures one inch in diameter. Ten years later, at Harvard College Observatory, Bond and Whipple secured satisfactory images of bright stars on a daguerrotype plate. Harvard, the birthplace of stellar photography, is to-day the most famous storehouse of self-imprinted records. Since the first success stellar photography has made continuous advances, the operations of modern instruments being familiar to most people.

In 1887, the International Astrophotographic Congress at Paris, decided to undertake the construction of a general photographic chart and catalogue. The work was practically commenced in 1892, and is now, after several minor interruptions, in a more or less completed condition. In this great undertaking Australia plays an honorable part. Up to the end of 1901, the total number of plates, measured at Melbourne, was 240. Of these, 141 were Sidney plates, containing 106,919 stars, and 99 were Melbourne plates, containing 24,494. These figures indicate in some degree the task involved in dealing with the 11,000 plates which are necessary to cover the whole sky. It is estimated that the catalogue will contain the places of one and a quarter million stars, including all magnitudes down to the eleventh. A feature of the survey which immediately arrests attention, is the unequal distribution of the stars. Thus, on the Sidney plates about three times as many are depicted as on the Melbourne.

Star-charting and the autographic delineation of other celestial objects may be said to have become possible only on the introduction of the dry plate process, which was first applied in astronomy in 1876. So great has been the improvement in material that objects which with the older methods would have required a hundred hours' exposure could now be portrayed twice in the course of one evening. He considers that none of the aids astronomy calls to her standard could be regarded as of anything like commensurate usefulness. Even the telescope, hardly presented so great a number of problems and such completeness of detail as the sensitized plate. Although essentially the junior partner in the triple alliance of the telescope, spectroscope, and camera, the last-named is indispensable and supplementary to both in the attack on many recondite problems. The planets have all been recorded by its steadfast gaze, but so far have not yielded the splendid pictures which almost uniformly are obtained of the sun, moon, and comets. The finding of the ninth satellite of Saturn, if confirmed, will be another illustration of the versatile powers of the actinic plate, while that mysterious and indefinite phenomenon, the Zodiacal Light, yielded some promising impressions.

Under the direction of Professor Pickering, Harvard College has accumulated a collection of photographic results far beyond that of any other centre. One monumental volume is the Draper catalogue, which contains the details of the spectra of 10,351 stars. Some remarkable results are apparent from its study. About two-thirds of the Milky Way stars included in the survey are found to be Sirian stars, belonging to type I., thus confirming to a certain extent Professor Kapteyne's theory that the galaxy stars are photographically more brilliant than those in other parts of the sky.

One striking conclusion in Professor Pickering's discussion of the Draper catalogue is that, with few exceptions, all the stars may be arranged in sequence, thus making "the evidence that the same plan governs the construction of all parts of the visible universe conclusive."—*The Australasian Photographic Review.*

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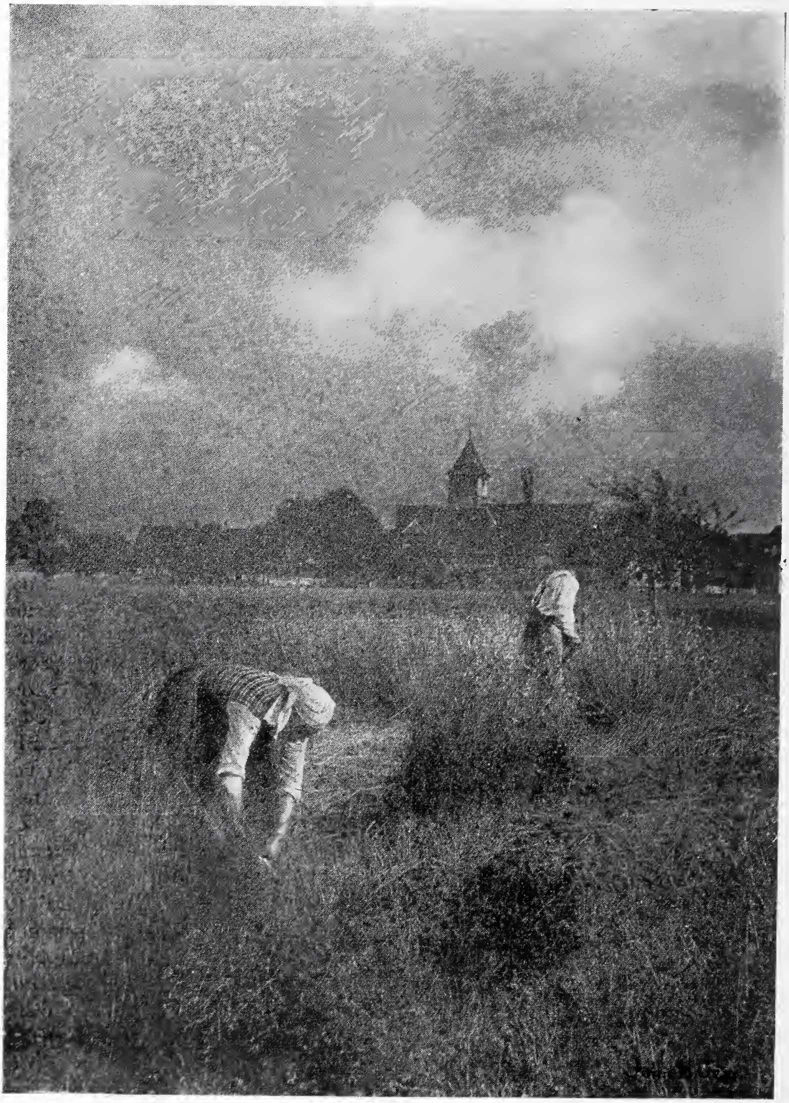

SCHWARZWALD PEASANTS. By John H. Gear.

PROFESSIONAL AND AMATEUR.

WE have recently had an interview with a professional photographer, who expounded his views on the relationship between amateur and "pro" in a direction that we consider worth while bringing before our readers, especially at a period when an almost universal consensus of opinion represents professional photography as being at a very low business ebb, and when, consequently, its exponents are inclined to lay part of the blame on the amateur. That a strong feeling does exist in the minds of some owners of studios against the amateur does not admit of dispute; the point to determine is whether it has any justification or not. At the outset it will be desirable to limit the use of the word to what we may term its ordinary signification. Most of our readers have heard of the man whose visiting card was inscribed "Mr. ——, amateur photographer," and who touted for orders. It need scarcely be said that we do not include photographers of his calibre under the term, as he would be a bona fide professional, and would do perhaps as little, or as much, harm and no more, than if he had run a studio on his own account with his name over the door. No, our business at present is with the camera user who employs his instrument as a minister to a hobby, though he may occasionally sell prints from his negatives, either for a little pocket money or to help cover expenses or to oblige a friend. Do these workers do any harm or not to those who own studios and work in them for their daily bread? In this argument it must ever be borne in mind that what photographic technique is at the present day is due mainly to the amateur. The modern dry-plate is exclusively the invention of amateurs; the dry-plate of old—the Taupenot, the oxymel, the Fothergill, and its congeners, were all the outcome of amateur experiment, while the system of alkaline developement will always be linked with the name of Major Russell, The position taken by the objectors is that it is just to gain a livelihood from the fruits of the amateur's brains; but that it is not just for the latter to do anything whatever that is calculated to lessen the extent of that livelihood. As a question of ethics there can scarcely be two opinions as to the fallacy of such argument. To bring matters to a point as to their present bearing, however, here is what our introluctor said:—"I admit I can trace losses to amateurs taking wedding groups and cricket and football teams, etc., which I should have taken if he or his like had not been available; but, bad as business is, I think the amount so lost is inconsiderable compared with the whole business, and is more than compensated for by the good the amateur does by showing appreciation of my work. The more skilful the photographer, the less he has to fear from the amateur.

When an amateur first starts he has an idea that when he has had a lesson or two, and so long as he does not mind staining his fingers, the rest is something like turning a handle—grinding pictures out. Then, when after spending a lot of money and time, and finding it hard work to get one good photograph out of twenty, he has a deal more respect for me and my fellows (who must get twenty out of twenty or sink), than ever he had before; and besides, he begins to learn not only the difficulty of taking a good photograph, but the difference between good work and trash. No doubt he will make himself felt by the second and third rate worker; but because a man buys a camera and etceteras, and opens a studio, is it to be understood that he at once becomes seized with a right to warn off what he calls trespassers, men who can easily do better work than himself? Because a man starts a business, a knowledge of which he picked up in a few spare half-hours, does he expect that everyone not in the business must kow-tow to him and help him to prosper? It is men of this stamp, not the amateur, who is doing us harm, men who cannot take a decent negative to save their lives, and who, because they think they must live, cut prices and do their level best to bring photography down to their own gross level. Fair, honest competition is just, and it must be looked for in every business; but this is not fair. The fatal facility of modern photograph-making renders it possible, and I wish that Sayce and Bolton with their emulsions had never been born. A neat and clever man had an advantage before then; now. when every errand boy has a camera and can take a negative after one lesson, the whole thing promises to go to the dogs."

We have given as nearly as possible the actual words used, and they evidently contain the germs of truth, with a certain amount of reasonableness combined with much extravagance. In support of his views about the help versus hindrance of the amateur, he gave us a personal experience. An old client of his residing at a distance asked him one day if he remembered how he—the amateur—first started coming to him. "No; he had forgotten." "Well, a good many years ago I wanted some plates changing, and did not care to come to a swell place like yours, so I went to ———; he was so rude in his refusal that I thought you could not be worse, and I asked you. You were so ready and obliging that I determined to put all the business in your way that I could, and you know how many friends I have brought to be photographed." There is an old saying that a grain of practice is worth a bushel of theory, and here we have an object-lesson bearing out a great deal of what the gentleman whose opinion we have so fully quoted uttered. At the same time it must be remembered that there are amateurs and amateurs, and the meannesses that are to be found among a few members of every community are not to be extirpated by becoming an amateur photographer. Another professional of our acquaintance has a pronounced bias against the amateur which we believe to be founded upon a single experience. One came into his studio and asked if he could change his plates in an hour or two. "Yes, I have a small dark room downstairs that you can make use of; I can't let you into my usual room; I am too busy." "By the by, what will you charge me for a dozen cabinets?" "A guinea." "Oh, I say, that is too much; you see I know how much they cost." The man never turned up again. Our friend was certain that it was because he saw he would have no chance of picking up any wrinkles, and that the original request was a bogus one with no other object. Granted it were, the case was only a single one, and he should not have banned the rest for the fault of one. We have found the chief complaint against amateurs who have been permitted access to dark rooms is their general untidiness, and the way they mess about and leave everything dirty that they use. We are afraid that this complaint may be urged against others besides amateurs; but at any rate, the latter, who are concerned, may take the hint and try to mend their ways. There is, we are glad to see, a growing tendency for professionals to hold out the hand of fellowship to the amateur. May such feeling continue to grow to their mutual benefit and the advancement of the status of photography.—*British Journal.*

DUMPING GROUND. By Alvin Langdon Coburn.

ON THE USES OF FORMALINE.

ON the first occasion of this chemical being mentioned in a scientific paper (a German periodical, dealing, inter alia, with microscopical matters), we ventured to predict a very important place for it in photographic chemistry. To a certain extent our expectations have been fulfilled, but not so much as we anticipated. It may be remembered by some of our readers that the hardening, when dry, of the gelatine used in micro-slide mounting was the subject of the recommendation we refer to; but no mention was then made of the fact that such use was patented. The comparatively limited employment of this substance we take to be mainly due to two causes—firstly, that, at the outset, many erroneous statements about its use were made, and secondly, to the circumstance that prominence has been given to the fact that its use for most photographic purposes is patented. But as regards the latter there need be not the slightest difficulty; the mere purchase of a bottle of this liquid (of Schering's make) confers on the purchaser the right to use that bottleful for hardening gelatine films and the like. So that the only possibility of objection lies on the need to make use of a particular maker's preparation; but, as that is of unsurpassed quality, no trouble need arise. We do not doubt that many people are unaware of the existence of patent rights in this direction; but they do exist, and we cannot but think that their existence is one cause, as we suggest, of the non-use of this valuable agent.

With regard to erroneous ideas as to its use, we more particularly refer to the recommendation to wash a negative well before fixing when formaline has been added to the developer to prevent frilling, as the formaline, it was said, would cause a precipitate of the silver dissolved by the hypo. Nothing could be further from the truth, as a simple experiment—which anyone could make—would prove. Let a small quantity of hypo solution, which has been used for fixing a number of plates have added to it a drachm or two of strong formaline; the liquid remains perfectly clear and shows no signs of precipitation—it follows, therefore, that, even if a plate were taken straight from the develper (to which formaline has been added) into the hypo, it would be uninjured. We would point out what a valuable property this is. Fortunately, frilling is far less common than was once the case, though certain makers recommend the use of alum before fixing under all circumstances, thus entailing extra labor and loss of time—a great objection nowadays, when rapidity of treatment is a particular requirement of amateur and professional alike. Yet under abnormal conditions of treatment, temperature and climate, the best of plates may frill, and a simple and expeditious remedy should be valuable. If five or six drops of formaline to the ounce of developer be added, the best remedy possible will be tried, and few are the cases where the remedy will not be found absolute. Formaline—solution of formic aldehyde—is of itself a reducer, so that no fear need be felt that the reducing action of the developer will be interfered with, save on the one ground of the tanning of the film preventing the penetration of the developer, as this in practice will not be found to take place. It is true that complaints have been made that in formaline-treated negatives the films have become so contracted that when dry they split away from the support; we can only say that in our own practice, keeping the strength low, no such contretemps has occurred, though we have so treated a large number of negatives.

Messrs. Lumiere have shown that the ketones, with the aid of sulphite, are a sufficient addition to pyro, etc., to form complete developers, and looking upon formaline as a ketone it might be expected to act in this manner. It will do so. A solution of pyro, formaline, and sulphite of soda will develop a plate which, when fixed, may be dipped (after a slight washing) in boiling water without injury. This experiment suggests a reminder to our readers of the value of formaline in hastening the drying of the negative, a purpose for which it is in some repects superior to soaking in methylated spirits; for the latter, as is well known, is very liable to produce a milky deposit between film and plate when heat is applied to expedite matters. No such untoward end need be feared with the use of formaline. Before leaving this aspect of our subject we may say it has been suggested to us that plates known to be liable to frill might be rendered proof against the tendency by exposure, when dry, to the fumes of formaline.

We have lately put this action of tanning, or drying gelatine to a novel use. An accident having occurred to a large and rather costly glass measure—a piece knocked off the upper part—we cemented it with fish glue, and, after allowing a week to dry, we placed a drachm or two of formaline, full strength, at the bottom of the glass and placed it in an air-tight cupboard for a few days, and now have it in regular use without, so far, showing any signs of separating at the junction. So long as it is not allowed to remain standing filled up with water we have no reason to apprehend its being in any way inferior to a perfectly new measure. In conclusion we may remind our readers that the action of formaline is not confined to dead matter. Quite apart from the fact that as a germicide it is almost unequalled, a property of slight photographic interest, it is capable of acting upon living human tissues, and hence care should be taken to avoid the inhalation of its odor, or allowing it to act upon the nostrils or the eyes, which would produce sensations the opposite of pleasant.—*British Journal.*

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COLORED GLASS POSITIVES.

BY R. KIEKERT.[*]

THE most preferable colors for this purpose are aniline colors. Beginners should make their first trial on a rather dense plate. The requirements are an arrangement similar to a retouching frame, with a white sheet of paper for reflection, three brushes, one fine, one medium and the other flat, and the body colors sky-blue, dark red and yellow. All intermediate shades can be made by these, if no other colors are on hand. To harden the film, it will do no harm to bathe the plate for five minutes in an alum bath. The plate can be used moist or dry. For beginners the moist plate is preferable. Good light is necessary, and projection pictures should be colored in artificial light. The difference between daylight and artificial light is sometimes very striking with some of the colors. Of the colors saturated solutions are made, and when clear, they are put in bottles ready for use. For sky and water use sky-blue. The effect on the water differs considerably from that on the sky. Apparently two different shades are obtained. As the sky is lighter at the horizon than at the zenith, the plate has to be turned when painting ; thus the surplus of the color will run toward the darkest part—the zenith. For trees and grass use green-yellow and blue. The yellow color predominates here, although we imagine it is green. Mix a yellow-green and apply it with a flat brush in bold strokes to all leaf and grass work, with the exception of the leaves projecting toward the sky. In the woods the background is more brown than green. For this mix blue, yellow and red, add a little more red and you will have the color for the trunks of the trees and walks. For trees show the proper green—blue with a little yellow. For high lights, yellow with red. Leaves in the distance are almost colorless. The foregoing will be a sufficient guide for the beginner. and with a little practice he will succeed without difficulty. Care, of course, must be had to picture and imitate nature as near as possible.

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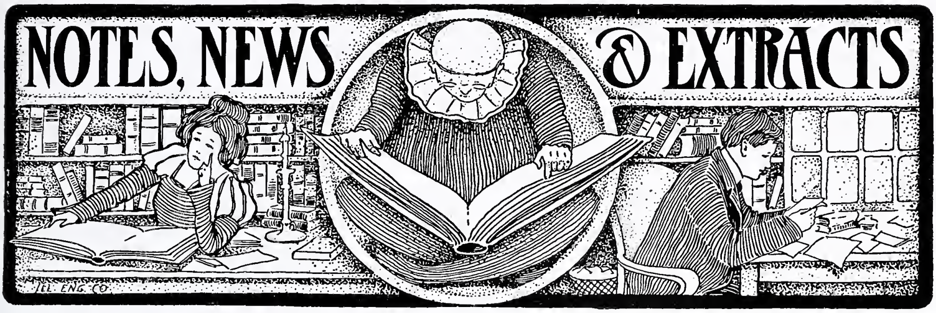
[*] Translated by Henry Dietrich.



NOTES, NEWS & EXTRACTS

International Exhibition of Art-Photography, Budapest, 1903.—The Photo-Club, National Association of Hungarian Amateur Photographers, will arrange, in the spring of the year 1903, at the rooms of the Art-Society, "Nemzeti Szalon" (IV. Ferencziek-tere 9) an International Exhibition of Art-Photography.

The exhibition will be opened on the 7th of April, 1903, and will last about three weeks.

The Reading Lantern Club will hold their second exhibition of amateur photographs at the Club Rooms on May 4th to 9th 1903.

It is the desire of the Exhibition Committee to present to the public of Reading an exhibition of the representative photographic work of the present time, and more especially that class of work showing artistic handling.

There will be no prizes, but exhibitors will receive a souvenir catalogue.

All pictures must be mounted.

No entrance fee will be charged.

Pictures to be submitted must be in Reading, carriage prepaid, not later than April 25th.

Address all communications and send all pictures to Fred. E. Haas, 152 Buttonwood street, Reading, Pa.

The Quarter Century Photographic Competition, which is being conducted by the Bausch & Lomb Optical Company, and which closes October 1st next, is attracting unusual attention among American photographers, from the fact that it is the only competition in recent times in which the merits of American photographic lenses have been tested, and it will be an extremely interesting epoch in the development of American photography as showing the results of the last quarter century's work in an industry which has heretofore been essentially European. Judging from the exhibits which have already been handed in, although the competition is not to close for eight months yet, there will be no cause for the users of American lenses to regret their choice.

The Fifth International Congress of Applied Chemistry will begin its session in Berlin on May 31st, 1903. This meeting will be the most important function of the kind ever held, and include all departments of Applied Chemistry.

Special committees and sub-committees have been arranged for all countries. The general chairman of the American committee is Dr. H. W. Wiley, Chief of the Bureau of Chemistry of the United States Government.

Photochemistry is represented by Section IX., and it is hoped that all Americans interested in photochemistry will become members of the Fifth Congress. The fee for membership for Americans is $4.85. Members will receive the full printed reports of the proceedings and all the papers read during the session. This publication in itself will be a very important one.

All American Photochemists are requested to present papers on photochemical subjects. If they cannot go to Berlin themselves, these papers will be read by Dr. Leo Baekeland, who is the chairman of the section on photochemistry.

All correspondence on this subject or applications for membership can be addressed to Dr. Leo Baekeland, "Snug Rock," Yonkers, N. Y.

The California Camera Club and the San Francisco Art Association announce that the Third San Francisco Photographic Salon will be held in October, 1903.

In order to encourage liberal contributions from pictorial photographers at home and abroad, and to save the expense of framing pictures that may not be accepted, as well as the greater expense of transportation, pictures suitably mounted or matted will be received from contributors in the United States, and such as are accepted by the Jury of Selection will be glazed by the Salon Executive Committee at the exhibitor's expense.

Foreign contributors may send their pictures either unmounted, mounted or matted as they desire, and the management will mount and glaze those accepted, and return the entire contribution to the owner after the exhibition free of charge.

With the above-mentioned exceptions, the general rules which governed the Second San Francisco Photographic Salon will prevail, the details of which will be set forth in the regular announcement shortly to be issued.

It is hoped that this early notice will result in the selection of dates for the holding of other salons that will not conflict ; in other words, that dates will be so chosen, as to allow sufficient time to intervene between the close of one salon and the beginning of the next to enable contributors to send their pictures in turn to the various salons.

Ohio-Michigan Photographers' Association.—The Executive Committee of the Ohio-Michigan Photographers' Association met at Toledo, January 28th, and decided on July 22d, 23d, and 24th, as the dates of their next convention, to be held at Saginaw, Mich.

The following rules were adopted to govern the exhibition of pictures :

First : Exhibits may consist of one or a dozen pictures, any size, framed or unframed.

Second : The Association will not be responsible for any loss or damage, but special precaution will be taken to insure the safe return of all pictures submitted for exhibition.

Third : All pictures must be set so that they may be judged by the hanging committee on the 21st of July. As provided by resolution, all pictures shall be judged by a committee of three artists, and three photographers, with the President as Chairman. It will be necessary for all photographers to send their pictures a few days in advance of the Convention, so that they may be there on time for this hanging committee to make their selection.

Fourth : All pictures shall be sent to Frank R. Bill, care Masonic Temple, Saginaw, Mich., carriage prepaid, and delivered not later than July 20th, 1903.

Fifth : Exhibits for manufacturers and dealers shall be sent in care of the secretary, F. W. Wolf, Saginaw, Mich., care Masonic Temple, all charges prepaid, and must be placed in position on or before the opening of the convention.

Sixth : All boxes and packages will be accepted at any time before July 22d, so that exhibitors need have no concern for the safety of their goods. No exhibit will be allowed to be removed before the close of the convention.

Seventh : No manufacturer or dealer shall be permitted to do business on the convention hall floor, unless he, or they, first secure space or desk, and he shall, in addition, pay the entrance fee of two dollars.

Eighth : Employees to gain admission to the convention shall pay two dollars ($2.00).

Ninth : Dues must be paid to D. D. Spellman, treasurer, Detroit, Mich.

Membership fees $3.00. Annual dues, $2.00.

F. W. Wolf, *Sec'y*,
1008 Pearl St.,
Cleveland, Ohio.

A. L. Bowersox, *Prest.*,
Dayton, Ohio.

The Progressive Educational Convention.—The twenty-third annual convention of the P. A. of A. will be held at Indianapolis, August 4-5-6 and 7, 1903, in Das Deutsche Haus (German House). Every convenience for holding the convention in this hall is unsurpassed.

This is the age of progression, when all progressive photographers are bending every energy to improve, both in mind and in finances.

What better way can this be done than by associating with the brightest minds and finest workmen?

Then again, could you not learn a great deal by exhibiting some of your best work and comparing it with the best work of others?

Surely your work is not beyond comparison?

We want you to send in an exhibit of your best work and some one will be there to criticize it for you, if you so desire, for by no other means can you learn as rapidly. Just send in your exhibit and we will do the rest.

Is it not far better to lend your every effort to elevate and uplift the art of photography by sending in an exhibit of your best work without the prospect of a prize, than it is to compete for prizes that at best are but transitory? How many of our prize winners of to-day are financially well to do?

The question of prizes has become a past issue, for in nearly all cases there has been dissatisfaction, with the decision of the judges, and so your executive board has decided to follow the precedent established by a former board and discontinue the awarding of prizes, as they but tend to demoralize the profession rather than to uplift it. Anything that tends to lower the standard of photography should be abolished and discouraged whenever and wherever possible.

Can you afford to stay away? I think not.

Your executive board has worked incessantly to the end that no one shall go away dissatisfied. A very instructive programme has been arranged, so that you will derive much benefit by attending and listening to the many good lectures planned for you. Then again we are expecting a grand display from this and foreign countries.

Art lectures, business talks, demonstrations and a general good time will be had.

Think this over and see if it would not be to your advantage, both socially and financially to be there.

Many of the leading photographers of to-day owe their success to having attended our National Conventions in the past.

If you will but tax your memory, just a trifle, you cannot fail to see where younger photographers have rapidly taken the places of the old time masters. This has all come from their attending our National Conventions, and keeping their eyes and ears open, while the old masters, secure in their own abilities, have stayed at home, and gradually, little by little, have dropped back until to-day you scarcely ever hear of them. Now it is up to you to decide whether you want to become a representative workman or not. Don't understand me to say that it would be impossible for you to become a good workman unless you attended the National Convention, but by attending it you will be thrown in with all the bright minds of the country, which of itself will be a great aid to you. An exchange of ideas amongst Professional Men always helps to improve, and improvement, both in workmanship and business methods, cannot fail to have beneficial effects. We want you to come and partake of the many good things prepared for you.

Will you come? Let me hear from you.

Now to get down to the amusement part of our programme.

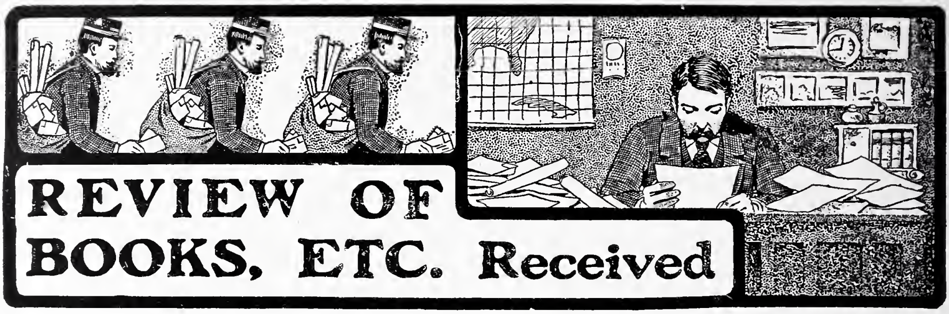
Our amusement committee has worked hard and faithfully to the end that every one will leave the beautiful city of Indianapolis feeling they have been well taken care of, well repaid for their efforts, and that all expenses incurred are more than offset by the increased knowledge gained and the very pleasant time enjoyed.

Bring your wives and sweethearts; they will be well taken care of.

All arrangements will be made with the hotels and railroads which will be announced later. Make up your minds at once to go and get to work on your exhibit. Don't put it off until too late. And don't forget to write to the secretary and tell him you are coming.

Very Respectfully Yours,
Geo. G. Holloway,
Secretary, P. A. of A.,
Terre Haute, Ind.

DAS DEUTSCHE HAUS, INDIANAPOLIS.



REVIEW OF BOOKS, ETC. Received

Photographie bei Kienstlichem Licht, by Dr. E. Holm, and published by Gustav Schmidt, Berlin.

This is a very instructive book about photography by magnesium light, with half a dozen handsome and descriptive illustrations, and can be well recommended. The text is in the German language. Price, Mark 2.50.

Die Retouchevon Photographien, by Grasshoff-Hoescher, and published also by Gust. Schmidt.

This book treats on the art of retouching, and this being the 9th edition, speaks well for its merits. It is also in German. Price Mark 2.50.

The Progressive Photographer: edited by G. M Bolton. This publication is the official organ of the Photogaphers' Asssociation of New England, and is certainly a credit both to the publisher and the Association. *The Progressive Photographer* is well printed and illustrated and intelligently edited, and should have the hearty support of the fraternity.

Die Dreifarben Photographie, by Arth. Freiherr von Hübl. Second Edition.

This new edition has been revised considerably, and we have no doubt will meet with even more favor than the first edition. To all interested in this process the book is a valuable source of information. It is published by Wilh. Knapp, Halle a/s, Germany. Price Mark 8.

Art and Photography is the title of the new monthly published by K. M. Turner of Atlanta, Ga. Mrs. Walter Howard is the editor.

Art and Photography is the only publication of its kind published in the South, and should receive a warm welcome, not only from Dixie, as it is well edited and illustrated, and will find a hearty support from all photographers and artists.

Ausfüholiches Handbuch der Photographie, by Dr. J. M. Eder. III. Vol. Fifth Ed.

This is one of the most important volumes of Eder's works, treating on photography with gelatine emulsions. It is almost double in size in comparison with the previous edition, and is up to date with the latest formulas and improvements in this branch of photography. Three color photography and orthochromatic views receive also his attention. Mr. Wilh. Knapp, Halle a/s, Germany, is the publisher. Price, Mark 8.

Picture Making for Pleasure and Profit, by T. Stith Baldwin. Frederick J. Drake & Co., Publishers, Chicago. Price $1.25.

This book contains twenty-five chapters devoted to the description of various photographic apparatus, exposure, development, printing methods, etc.

The book is well bound and printed on good paper; the illustrations vary from fair to very poor, but would in a number of instances lead the reader to believe he was perusing a railway guide book.

Bromide Enlargment, by Louis Allen Osborne. Price 10 cts. Published by The Camera and Dark Room Co., New York.

This book is evidently written for the amateur photographer, but many professionals could learn something by reading it.

The whole process of making enlargements by projection on bromide paper is simply and clearly explained.

The chapter treating on how to make an enlarging lantern is worth many times the price of the book to any one desiring to manufacture their own apparatus.

TRADE NOTES

Sydney, Cape Breton, Canada,
Jan. 15th, 1903.

Anthony & Scovill Co.

Dear Sirs:—The "Art Cyko" and Smooth Portrait Cyko received O. K. I went into a photographer's and picked out six ordinary negatives and printed them on "Art Cyko." The results were all *superb*. The first print I made blistered a little as I used plain Hypo, but on adding a little Alum and Tannic Acid I got no more blisters. I do not care to send any of the pictures as you might offer me a position as demonstrator. I believe the Smooth Portrait Cyko is capable of giving softer effects from ordinary negatives than any other Developing Paper, but I have not yet given it a thorough trial.

Yours truly,
W—— F——.

Buffalo, N. Y., Jan. 18th, 1903.

Columbian Photo Paper Co.

Sirs:—I desire to express to you my appreciation of your Cyko and the pleasure and comfort it is to use it.

More than a year ago I saw your Cyko demonstrated at the Pan-American Exhibition, and bought half a gross of 4x5 of the Matt finish. Many things interfered to prevent my making any use of my purchase until on December 31st, 1902, when I made some prints. I feared that the paper might have deteriorated from age, but I was delighted to find that its perfection and delicacy and also the properties of the Developing Powders were faultless.

—— Agents will not guarantee their Paper to retain its quality for a year, whereas your Cyko was found to be perfect fourteen months after purchase.

This is my first trial of your Paper and I prefer it to any Paper I have used.

Yours truly,
O—— D——.

We have decided to offer a First Prize of a Wynne Infallible Exposure Meter in Solid Silver, and a Second Prize of a Wynne Infallible Print Meter in Nickel-Silver, for the best prints from negatives secured by the use of our Infalible Exposure Meter between April 15th and October 1st, 1903, in each of the following classes:

Landscapes.—(Including all outdoor work other than Marines.)

MARINES.

Interiors.—(Including all indoor work other than Portraits.)

PORTRAITS.

Pinholes may be spotted out, but otherwise the negatives must be printed from as they were when taken from the drying rack.

Technical excellence only will be considered in making the awards, save in the case of a tie when the awards will be made in the order of artistic merit.

On the back of each print should appear: The actinometer time, plate used, stop employed, light conditions, time of day, exposure given, and the name and address of the competitor. If a color screen was used the fact should be stated.

Any number of prints, all preferably unmounted, may be submitted in each class.

When requested prints will be returned if accompanied by sufficient postage.

Very respectfully yours,
The Infallible Exposure Meter Co.

A New and Important Development of the application of photography to the perpetuation of the Government records awaits only the approval of Congress for its adoption, says the *New York Tribune*. It will consist of the preparation of greatly reduced negatives of the tons of State papers which now encumber the Government files. In many instances ten or a dozen of these papers can be photographed on a single negative. A comprehensive index will be kept, and a print of the required document, of any desired size, can be made at any time. In this way negatives which will occupy cubic inches can be made of paper which occupy cubic yards, and only in the rarest instances will it be necessary to refer to the originals. On the same principle the army and navy rolls can be reproduced At present these rolls are constantly wearing out and require endless copying, with the possibility of copyists' mistakes, etc. A photograph made the same size would obviate all this. No errors would be possible, and new prints would be available whenever they were required.

General Ainsworth, chief of the Record and Pension Office of the War Department, which office has custody of the volunteer rolls of the army during and since the Civil War, has, at great expense of time and labor, caused a card index to be made of the rolls in his charge. This was made necessary by the wearing out of the old rosters by constant reference; but had the system here described been in use by the Government, each of the old rosters could have been photographically reproduced and new copies procured whenever they were desired. The saving in expense, labor and space would have been great, apart from the perfect accuracy so obtained,

A Shutterless Cinematograph.—An apparatus for the projection of living pictures has been designed by Mr. A. E. E. Bréard, of 19 Boulevard Malesherbes, Paris, France, in which the picture images are continuously moved while, owing to a system of prisms also moved continuously, the displacement of these images are not observable. The principle upon which the system of prisms is constructed is this: When a horizontal ray of light passes through two prisms of equal refracting angle, the summit of one being turned to the base of the other, the planes that bisect the refracting angles being parallel and the edges of the prisms vertical, the ray is not refracted in the vertical plane and remains parallel to itself and only slightly deviated in the horizontal plane. If, however, the two prisms are turned in opposite directions through the same angle round axes parallel to the ray, the latter will still be transmitted virtually in the same straight line in the horizontal plane, but will be refracted in the vertical plane through an angle that increases with the angle of rotation of the prisms. To apply this principle for the purpose of making indiscernable the displacement of the travelling band of a cinematograph through a distance equal to the length of a picture, it is only necessary to rotate the prisms in the path of the rays from the picture to the screen or to the observer's eye at a speed bearing a proper relation to the speed of travel of the picture. If, moreover, the system of prisms returns to the same condition or position each time the band of pictures has advanced through the same distance, all the pictures will pass before the observer and he will not be able to detect at any moment that they move. The described form of the invention is a pair of wheels carrying—or made up of a number of prisms and placed in the path of the prisms in such a manner that two prisms. one in each wheel, constitute a pair situated relatively to each other as already explained. The axes of the wheels are at right angles to the plane of the picture, and the wheels are revolved in opposite directions at such a speed that each pair of prisms remains in action just during the time that the band moves through a distance equal to the length of one picture.—*The Optician.*

International Patents.—It is time that invention should secure some of the blessings of international legislation. Inventions in industry, literature and art have always suffered for want of laws to better their condition. The value invention bears to commercial interests has long been unofficially recognized, but it is time for a recognition now which will be bounded by the confines of no country on earth. Any legislator who will so assist in stimulating the ambition of inventors will stand in history side by side with the greatest of statesmen. When a man perfects his ideas and converts them into an invention of value, protection should be extended to him to the fullest extent in the form of Letters Patent, not only in his own country, but everywhere. The property rights of a man who owns a cow or who mines gold by his own labor are fully established over the entire civilized world, and no individual or corporation can lawfully deprive him of his ownership. But the man who labors, perhaps for years, and through his own efforts and genius alone, invents some valuable device, discovers some unknown power or new force which will benefit all mankind, is denied the universal right of property or the enjoyment of the fruits of his labors, unless he secures protection through Letters Patent from every Government in the world. His exclusive ownership is then only for a very limited term of years. Under the present international laws, to protect his property from robbery and infringement, an inventor must secure a patent from every nation in order to ensure exclusive possession. An invention patented in one State only is common property in the balance of the globe. A man's rights in his work should gain him just rewards. The narrow legal views existing to-day, whereby a man's property is only protected in the limited borders of the country where he obtains his initial patent, should be superseded by an international patent bureau, which would issue protective papers operative for the whole world. The establishment of international patent right is not to be considered a project of benevolence or charity, but an indication of a fuller and higher appreciation of the demands of justice. International treaties should be altered to include this pretty medium of reciprocity. What would the postal system be without the International Postal Union? Where our banking system without an international exchange? Why, then, this discrimination against the ideas of men who make the improvements in conditions and things which are, in reality, the sign and portent of our civilization.—*Invention.*

Film and Spool Litigation in the United States—A remarkable state of things—The much-discussed Goodwin American patent for roll films is now coming to the front in a remarkable way, and litigation is pending which may completely alter the existing conditions of film production in the United States. In order to introduce a somewhat complex subject to our readers, we may refer to Mr. Henry V. Hopwood's book on "Living Picture's" (London, 1899), Mr. Hopwood being probably the highest authority in Great Britain on photographic history and photographic patents. After referring (p. 188) to the commercial introduction of celluloid by the Hyatts in 1869, Mr. Hopwood says that it was not until about the beginning of 1888 that sheets were available for photographic purposes, and even then much remained to be accomplished in order that a sensitive emulsion might be supported evenly and without deterioration.

Speaking of roll films, an essential for cinematograph work as ordinarily carried out, Mr. Hopwood says: "The Blair Company seem to have first supplied films, and it was from them that both Acres and Edison in the first instance obtained their supplies. The Eastman Company quickly followed suit, and Messrs. Lumière, being manufacturers, made their own from the first." Mr. Hopwood thus touches on the Goodwin patent: "Strangely enough, after the lapse of nearly twelve years, during which rollable films of various makes have been on the market, an American patent was granted to the Rev. Hannibal Goodwin on September 13, 1898 (No. 610,861), the documents of which had lain under dispute since the date of their filing on May 2d, 1887."

It is our impression, but we speak with reserve, that, according to American patent law, the original date may determine the priority (in the Goodwin case, 1887), while the final date of allowance (1898) may determine the duration. If this is the case, and the Goodwin patent can be upheld in the United States, the whole commercial aspect of film production may be revolutionized.

The first signs of what may be a coming storm arrive in the shape of a circular issued under the trade-mark of "Ansco" (Anthony and Scovill joint), citing the Goodwin invention of 1887, and saying that "The photographer will at last be allowed to use the original and genuine daylight transparent film." The same circular announces the sale of the "Ansco" film in rolls, which not only fit the various "Ansco" cameras, but are also adapted to other cameras in the market. A further circular, signed by the Anthony & Scovill Company, and dated New York, January 16, 1903, states that on December 15, 1902, suit was entered against the Eastman Kodak Company for alleged infringement of the Goodwin patent. On January 13, 1903, the Eastman Kodak Company brought suit against the Anthony & Scovill Company for an alleged infringement of a patent for a spool.—*Amateur Photographer* (*British*).

◆

By the Misses Selby.

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All literary contributions, correspondence, "Queries," etc., should be addressed to THE EDITOR; all advertising matter to the Advertising Manager.

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SEVERAL SECOND-HAND BARGAINS in Collinear, Goerz, Zeiss and Anastigmat Lenses. Send stamp for list. Address, Willoughby, 621 Broadway, New York City, N. Y.

A FIRM IN RUSSIA, including an extensive wholesale and retail business in medicines and druggists' articles, will enlarge its department of photographic supplies, and **will accept Agencies for Russia.**
Manufacturers of Photographic Apparatuses, and those of all kinds of Photographic Supplies, are requested to send their price lists, conditions of sale, and firms who wish to dispose of agencies and their terms, to F. P. F., care of Central Advertising Exp., L. & E. Metzl & Co., Moskow, Russia.

PATRONIZED BY ROYALTY—First Prize Trinidad Exhibition. Catalogues and terms invited from reliable firms. Negatives, Views, etc., for sale. Address, George Adhar, San Fernando, Trinidad, West Indies.

AN ITALIAN FIRM, whose travelers visit frequently during the year the entire Italy, desires agencies for all kinds of photographic articles. A1 references at disposal. Address, in French language, Cassetta Postale, 72 Milan, Italy.

For Sale.

FOR SALE—A first-class Studio, centrally located, doing a first-class business; illness of owner reason for selling. Address, Masse Bros., Holyoke, Mass.

SIXTEEN HUNDRED DOLLARS buys stock and fixtures of an established Photographic Supply business: very little competition; population, 50,000; Eastern Pennsylvania; owner leaving the State. Address, "Opportunity," care of THE PHOTOGRAPHIC TIMES-BULLETIN.

FOR SALE—Fine Studio in the Casino Court, Newport, R. I.; unexcelled location; artistic Reception Room on ground floor, and unobstructed north light. Furnished, with exception of instruments. Everything new. Address, Immediate, care of THE PHOTOGRAPHIC TIMES-BULLETIN office, New York City, N. Y.

FOR RENT OR SALE two Photo Studios, established over fifteen years, located at popular summer resorts in city and at seashore; exclusive privilege. For full particulars, call or address Mrs F. Simmons, One Hundred and Eighty-eighth Street and Amsterdam Avenue, New York City, N. Y.

Employment Wanted.

Advertisements of Operators Seeking Situations will be Inserted Free of Charge.

WANTED—A first-class Retoucher and Printer; send samples, and photo of self, and state salary expected in first letter. Address, Harry Shartle, 801 Main Street, Lynchburg, Va.

YOUNG MAN, aged sixteen, wishes position as Assistant Operator or Printer; two years' experience; samples sent upon application; will work for small salary in steady position. Address, J. E. Guilbault, Main and Broadway, Fannystelle, Manitoba.

SITUATION WANTED by a young lady of experience to attend Reception Room or to Retouch. Excellent references. Address, W. H., care of THE PHOTOGRAPHIC TIMES-BULLETIN office.

EXPERIENCED OPERATOR, Retoucher, or Printre, now employed, desires change; city man; sober and reliable. Address, Photographer, 410 Market Street, Sunbury, Pa.

WANTED—Position as Retoucher, in first-class Studio only. State salary able to pay in first letter. Address, Tolanus Solitarius, General Delivery, Indianapolis. Ind.

WANTED—Permanent position by an A1 View Operator, sober, industrious, and an expert in all out-door work. Fifteen years' experience. I will engage with none but responsible people who can afford to pay good wages. Address, J. H. Barnes, 117 Franklin Street, Marietta, O.

WANTED—Situation in good Gallery by photographer of ten years' experience, up-to-date operator, dark-room man, and first-class retoucher. Address, Ernst Schwaner, 1315 Homewood Avenue, Baltimore, Md.

YOUNG MAN, twenty-one years of age, desires position as Assistant Operator, having five years' experience in general studio work, and also X-ray photography. Address, E. Weininger, 342 East Sixteenth Street, New York City, N. Y.

Wanted.

WANTED—An opportunity, by photographer, to travel and take pictures for some Engineering company or Exploring party. Specimens of work sent upon application to A. A. Densel, Box 256, Winona, Minn.

WANTED—Out of the ordinary, Pictures of People and Animals. Address, Frank G. Barry, Herkimer, N. Y.

WANTED—Novelties of the Photographic Line (staple articles) wanted for introduction in Germany by responsible, experienced merchant. Address, in detail, Jos. Valder, Cologne, a/r Mauritiusnall 65.

Actien-Gesellschaft für Anilin-Fabrikation, Berlin S.O. 36

Manufacturers of the

„AGFA"-REDUCER.

This reducer is issued in powder form, **one part of which is dissolved in ten parts of water.** The negative to be reduced is immersed in this. **Complete reduction takes about five minutes.** The negative is then well washed and the process is complete.

In 4 ozs. original bottle, sufficient for making 30 ozs. of a reducing solution ready for use. **Price $ —,80**

In Reducing tubes, ten in a box. Contents of each tube sufficient for making 35 ozs. of a reducing solution ready for use. **Price $ 1,—**

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In original bottles of	2 ozs.	4 ozs.	8 ozs.	16 ozs.
sufficient for making	20 ozs.	40 ozs.	80 ozs.	160 ozs. of an intensifying solution ready for use.
Prices	$ —,35	—,60	1,—	1,75.

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Print Meter.

YOU SET THE ONE SCALE: IT DOES THE REST!

THE WYNNE "INFALLIBLE" Photographic Exposure Meter is an unerring guide to the correct exposure required for every speed of plate on every kind of subject, and under every condition of light. **Price, in Nickel Silver Cases, $2.50.**

Extra Dials and Glasses, 25 cents per pair.
" Packets of Sensitive Paper, 15 cents each.
" Books of Instructions, 5 cents each.
" Speed Cards, 5 cents each.

Each dial has painted standard tints and each glass a yellow glass exposure shutter. Every packet of sensitive paper contains gummed standard tints. All speed cards have concise instructions for using meter on back.

THE WYNNE "INFALLIBLE" Photographic Print Meter automatically indicates the correct exposure required for printing Platinotype, Carbon, Engineers' Sun Prints, etc., with absolute accuracy and without any calculation whatever. **Price, in Nickel Silver, $2.00.**
These meters will be sent on approval for a fortnight by

THE INFALLIBLE EXPOSURE METER CO.
237 D SOUTH 4TH ST., BROOKLYN, N. Y.

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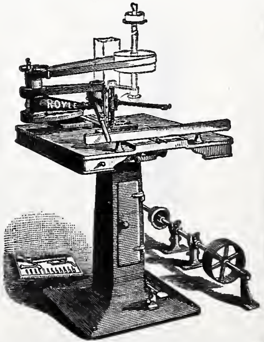

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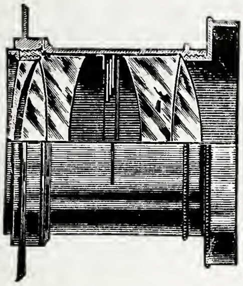

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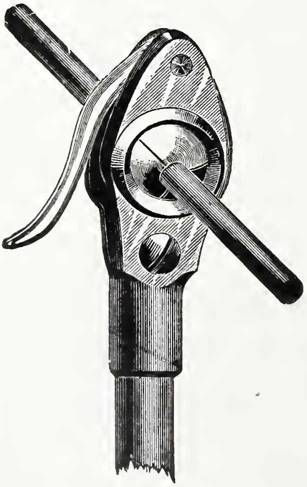

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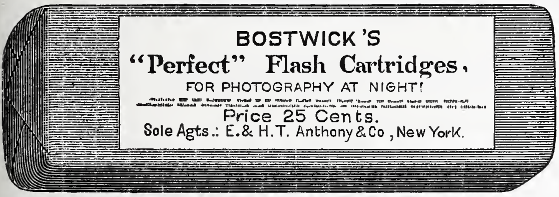

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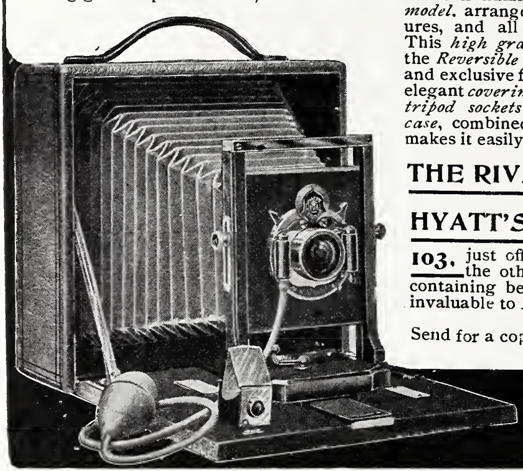

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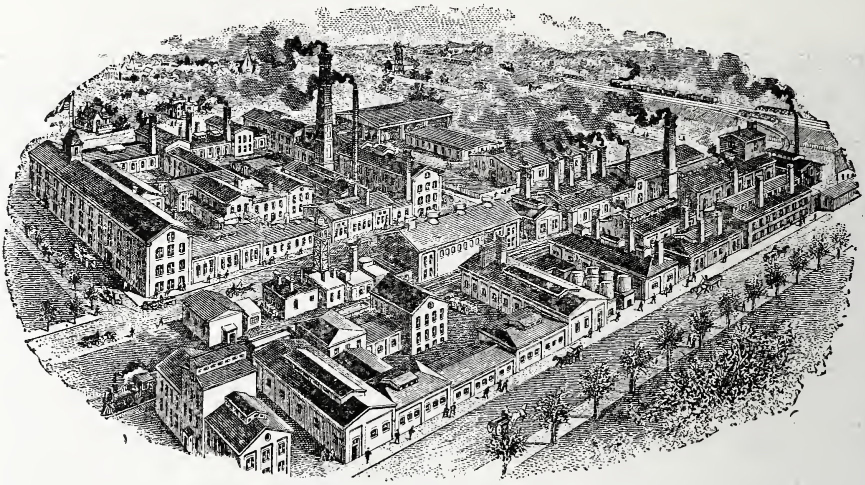

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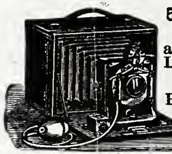

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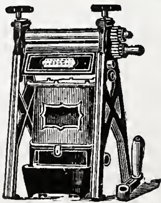

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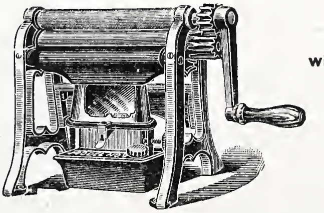

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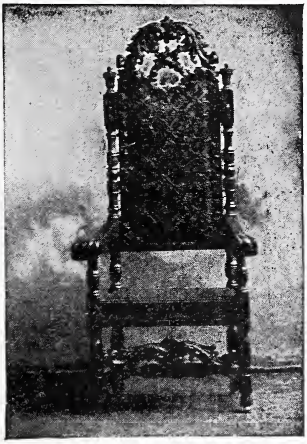

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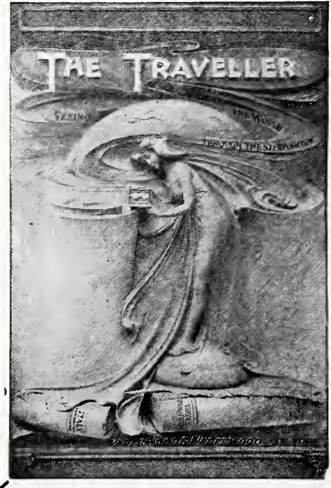

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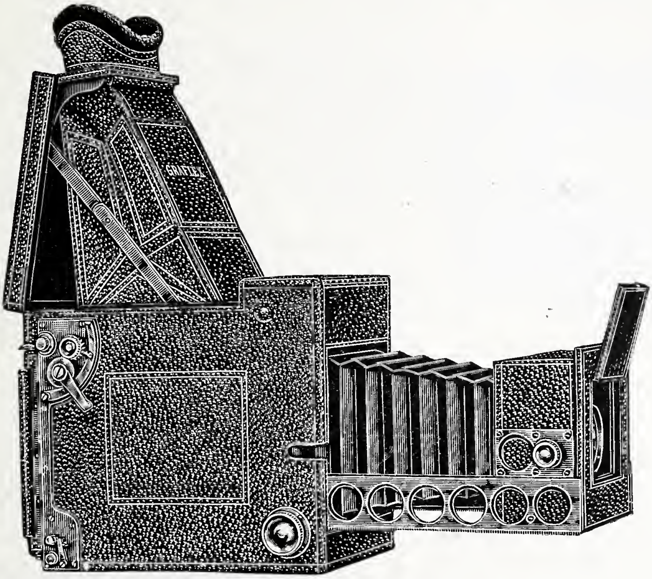

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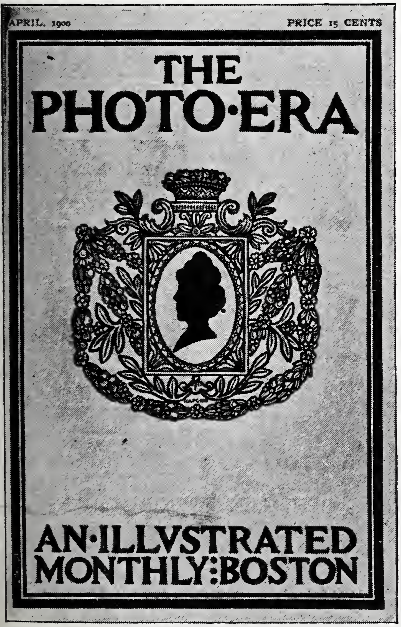

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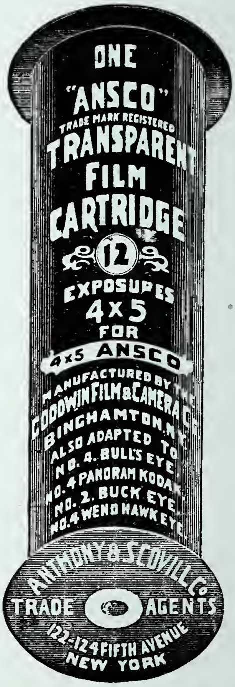

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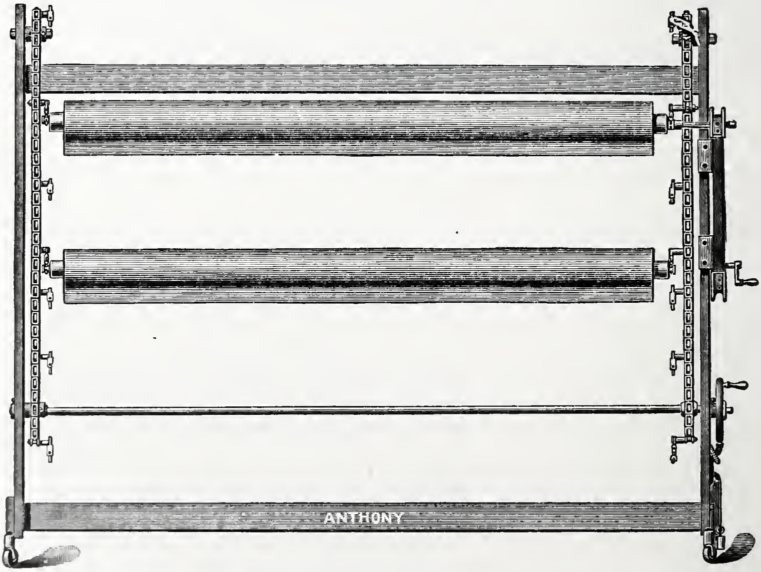

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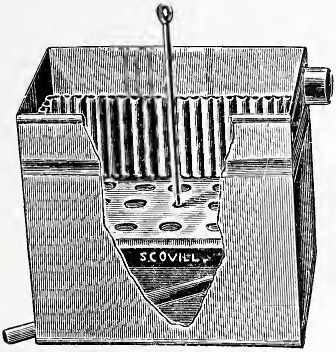

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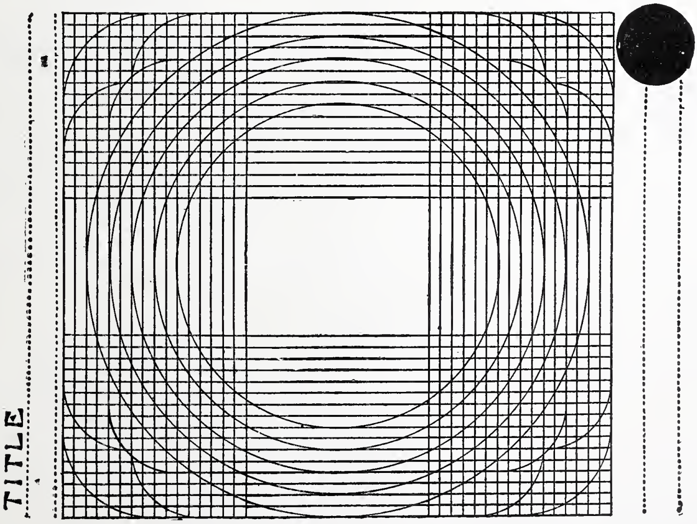

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106.	Red Chalk,	
113.	Portrait Brown,	
115.	Lambertype Purple (for Portraits).	
151.	Sea Green,	
152.	Dark Blue,	
165	Italian Green,	
160.	Platinum Black,	
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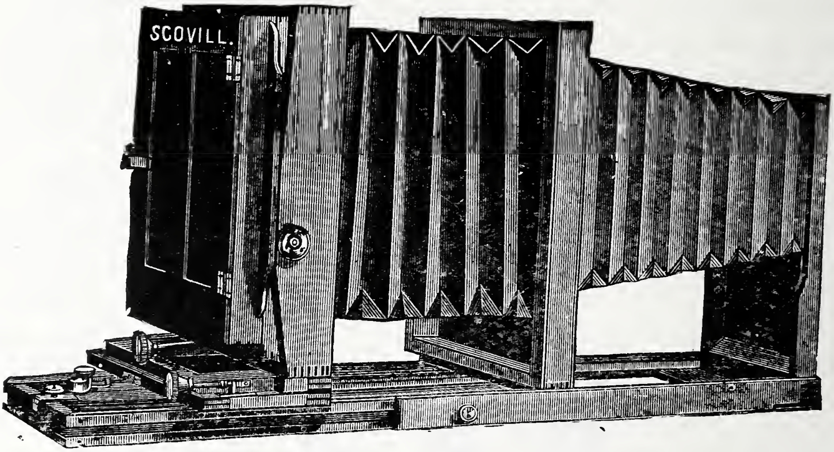

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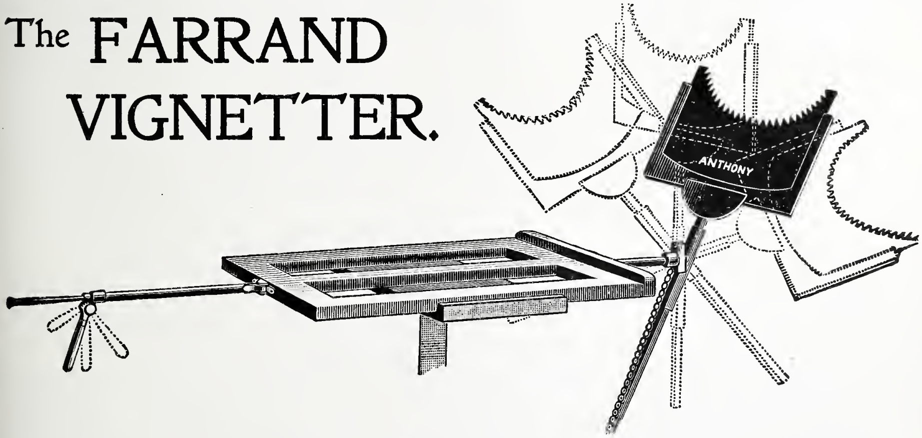

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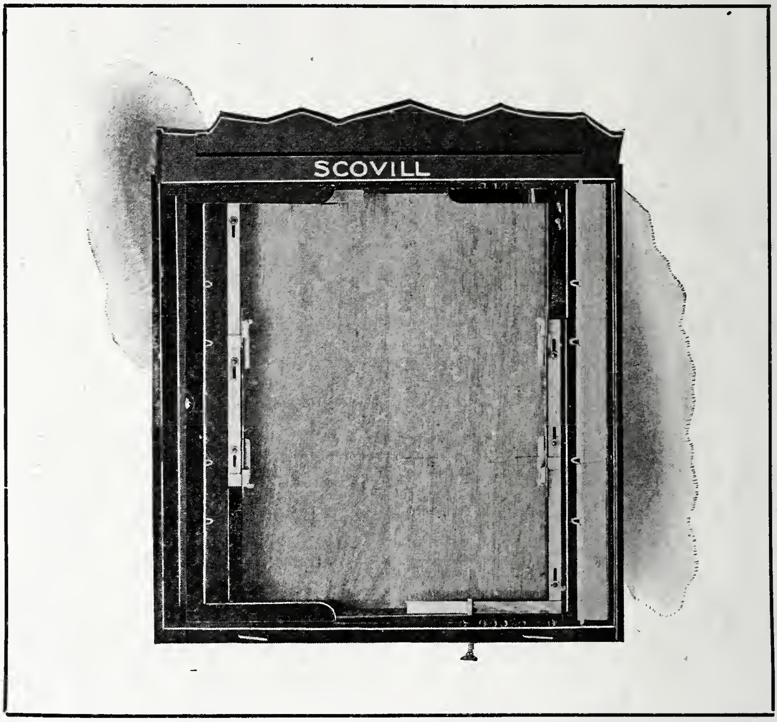

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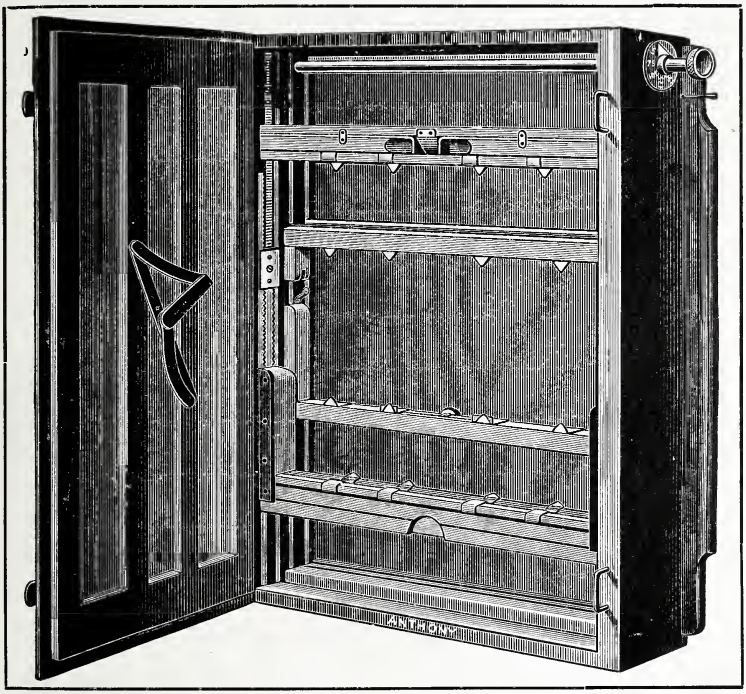

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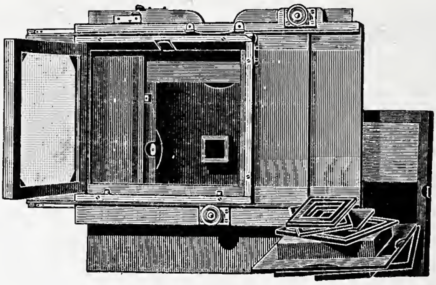

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8 x 10 .	32 00	35 00	42 00	48 00	54 00	68 00	82 00
10 x 12 .	40 00	52 00	70 00	80 00	95 00	110 00	130 00
11 x 14 .	60 00	80 00	98 00	115 00	135 00	160 00	185 00
12 x 15 .	75 00	100 00	120 00	142 00	170 00	200 00	230 00
13 x 16 .	95 00	122 00	144 00	172 00	208 00	240 00	280 00
14 x 17 .	115 00	145 00	168 00	208 00	252 00	280 00	340 00
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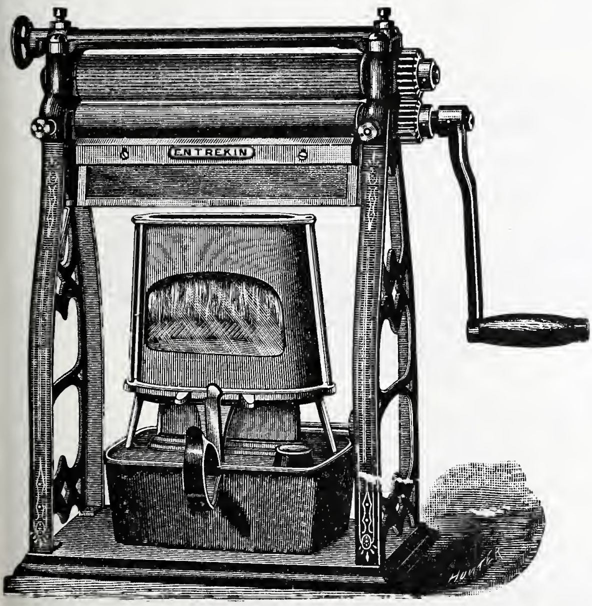

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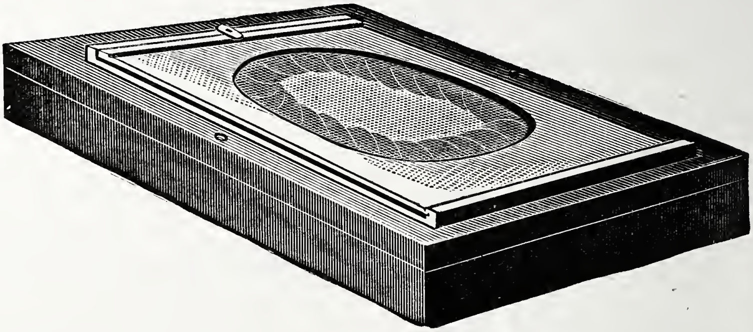

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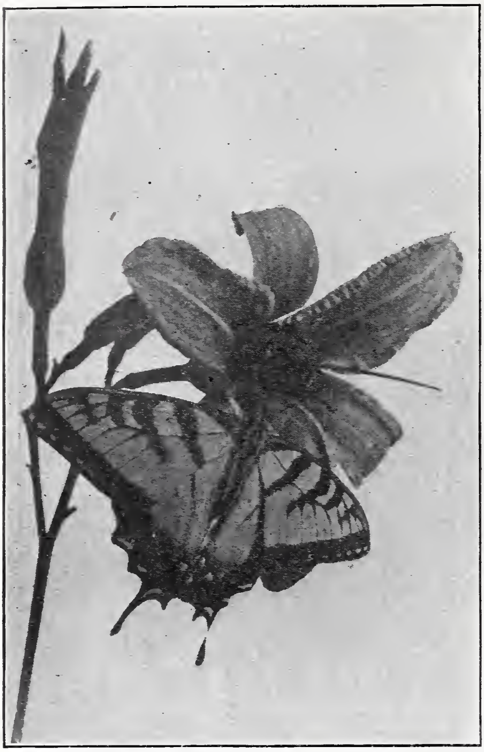

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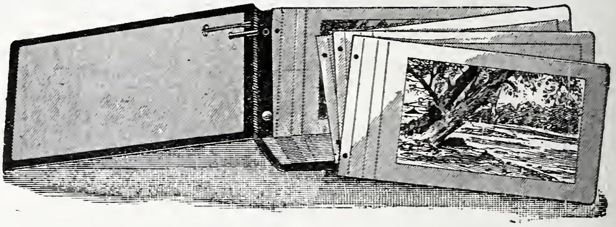

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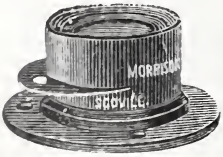

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3	1 "	4¼x 6½ "	4¼ "	"	25.00	
4	1 "	5 x 8 "	5¼ "	"	25.00	
5	1 "	6½x 8½ "	6½ "	"	25.00	
6	1 "	8 x10 "	8 "	"	30.00	
7	1¼ "	11 x14 "	10¼ "	"	40.00	These 2 sizes will fit into 1 flange.
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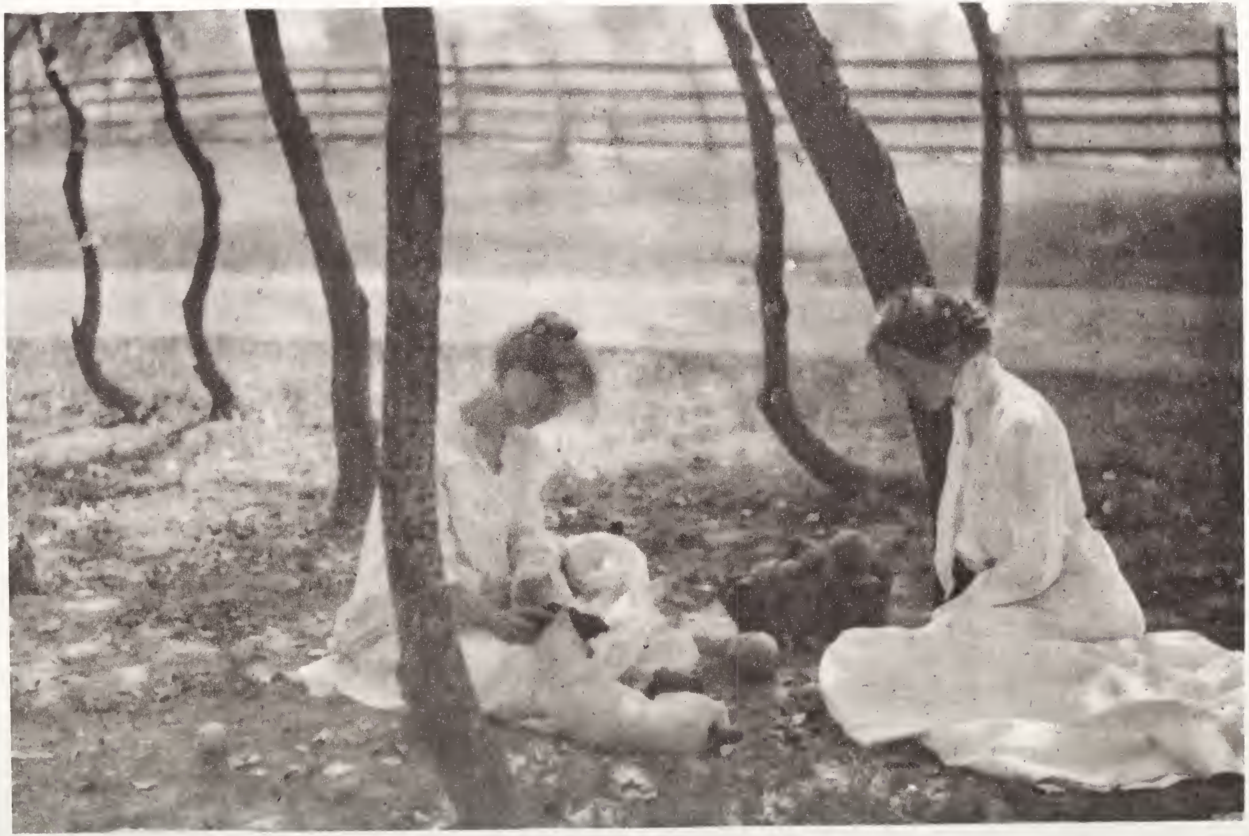
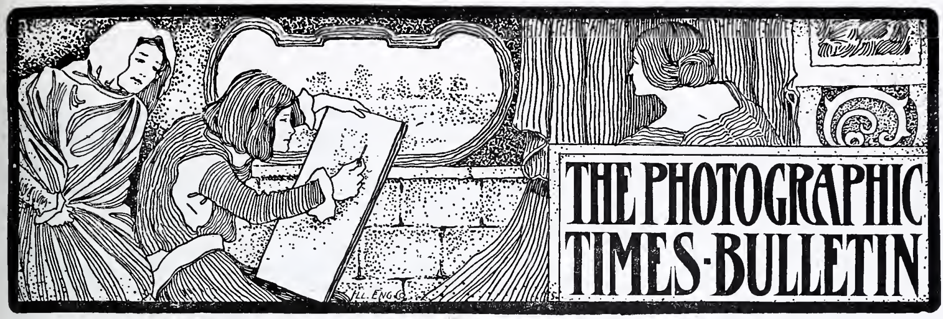


Autumn, by Gertrude Kasebier.



THE PHOTOGRAPHIC TIMES-BULLETIN

EDITORS: PROF. CHARLES F. CHANDLER AND SPENCER B. HORD.

VOL. XXXV. MAY, 1903. No. 5.

PHOTOGRAPHIC DECORATIVE FIGURE STUDIES.

BY HUBERT MCBEAN JOHNSTON.

Accompanied by Illustrations from the work of F. Holland Day, Frederick W. Birchall and Alvin Langdon Coburn.

IT is a favorite argument of those who are not interested, to say that anything approaching truly artistic figure studies is beyond the power of so prosaic a piece of apparatus as the camera, and to finish off with a dogmatic assertion that at least ninety per cent. of the so-called nude photographs we see are merely naked. It is no easy matter to explain just how and where the distinction between nudity and nakedness is drawn; but perhaps, if such as do not grasp the meaning clearly will secure one of those productions of some country photographer, who has essayed this branch of work, and compare it with some of the illustrations here presented, the gulf lying between the two will be more clearly defined. Possibly the best way in which this difference may be expressed in hard, cold type, is to state that for its charm nudity relies on idyllic suggestion, vagueness, suppression of useless detail and other indefinable subtleties. This statement is delightfully vague; but, just as it is frequently difficult to explain the charm of any picture, it is markedly so here to draw any hard and fast line between these two words. Sometimes, although lighting, composition, and every other minute detail, may be perfection itself, there seems to be lacking that indescribable something that is necessary to make a perfect picture; while again, on the other hand, although the photograph may be full of technical faults, it will often possess some subtle charm that endears it to the eye of the beholder. Lazy people rid themselves of the difficulty of defining this quality by simply saying, "It appeals to me;" when, as a matter of fact, it would be nearer the truth to say there is lurking in it some half-hidden individuality of the artist, which cannot help but appeal to everyone.

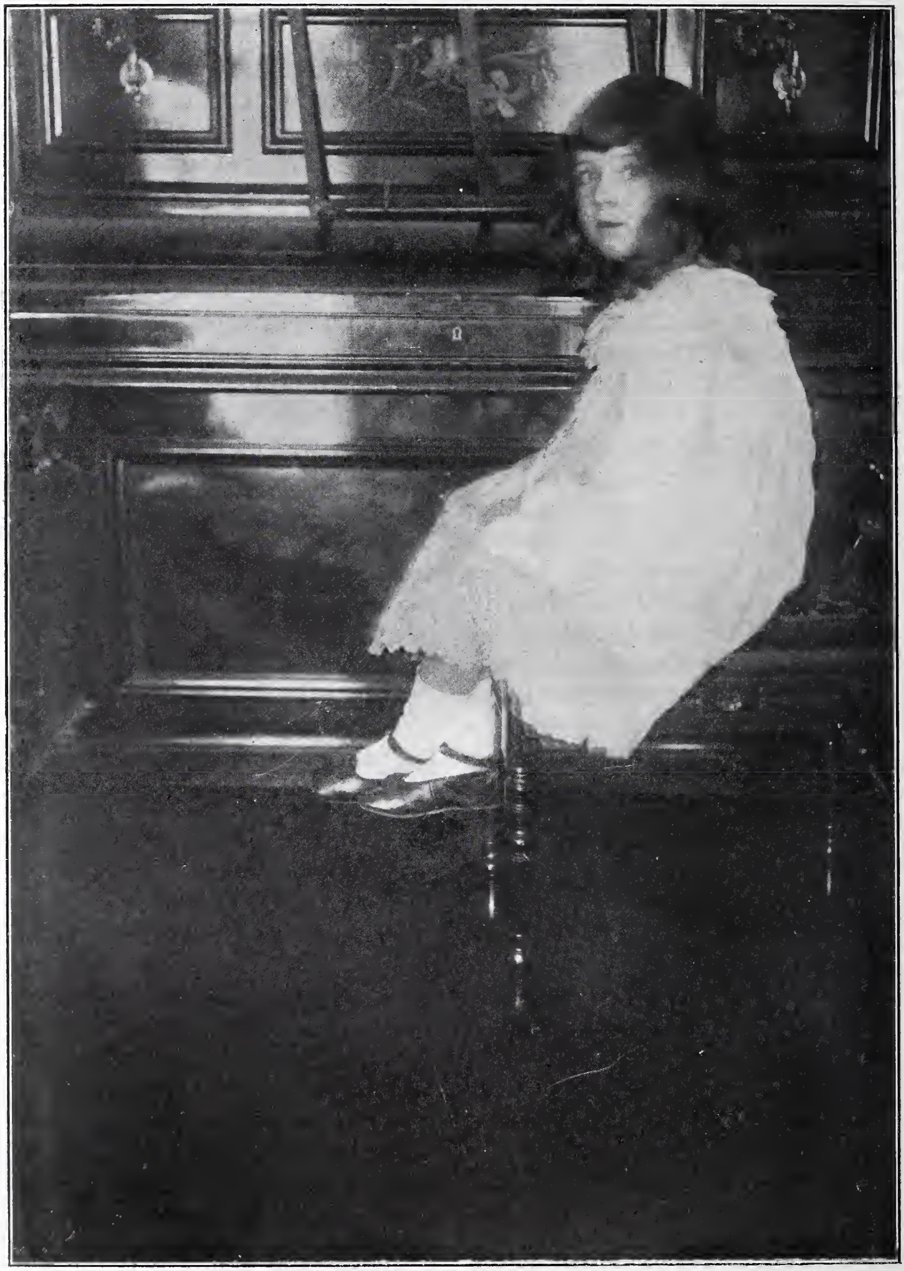
It must be borne in mind that the

AS IN THE LAP OF NIGHT THE SLEEPING DAY
AWAITS THE AWAKENING KISS OF DAWN

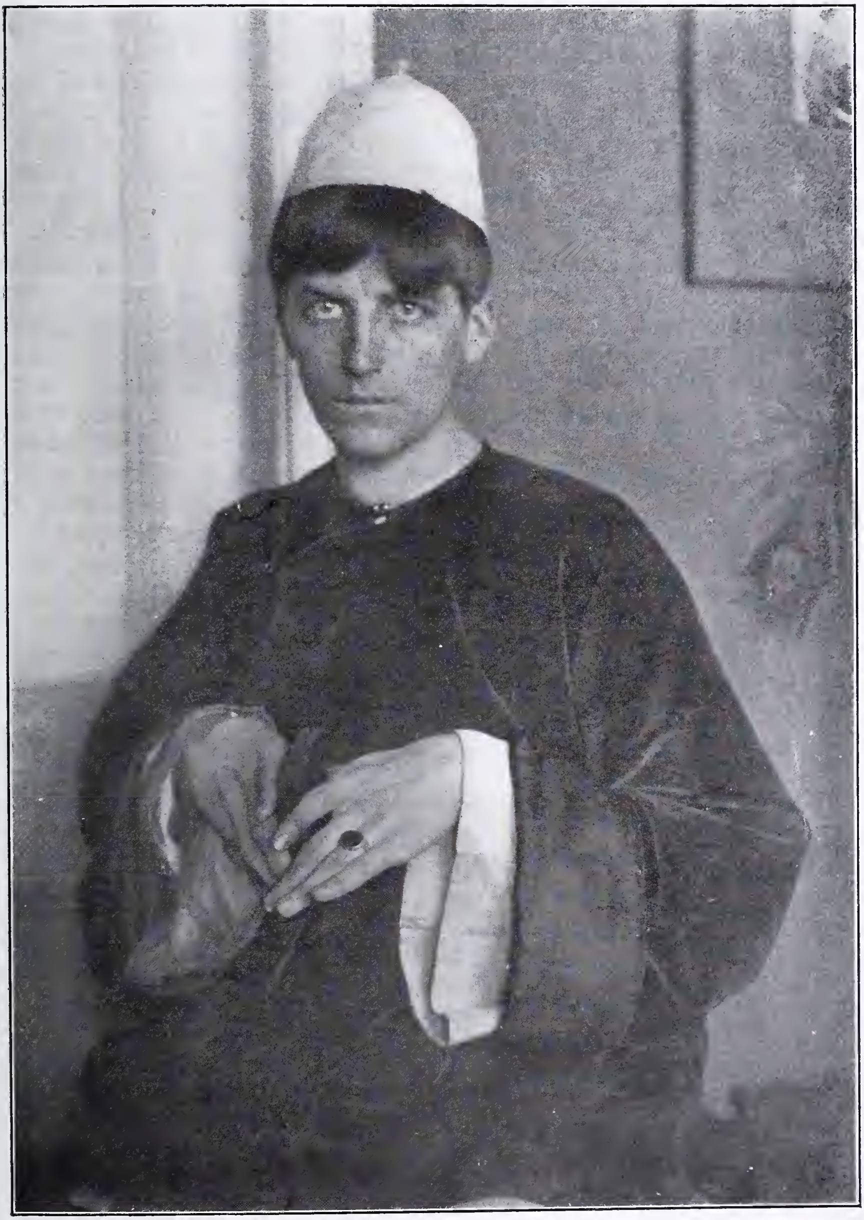
THE TRINITY OF THE DAWN. By F. W. Birchall.

line of true beauty is the result of perfect economy. Greek and pre-Raphaelite art teach us that all beauty must be organic, and that outside embellisment is deformity. Often, when looking at a figure study, there comes to one a feeling that the drapery is the only offender to the eye—figure, trees, water, and all else, are in perfect harmony; but the covering of the figure, no matter how thin or how transparent, irritates one by its superfluity. For many years drapery has been regarded by the photographic fraternity (perhaps more so professional than amateur) somewhat on the same line as the retouching pencil, *i. e.*, an excellent device to cover small defects that would otherwise show lack of skillful handling. How much easier it is to arrange a long, flowing drapery to suit the lighting, than to arrange the light to produce the best modelling on a nude human figure! It is a fact though, that, in studying a nude on the ground glass, one is apt to be led astray by color, and the dainty sylvan fairy beheld there will, as likely as not, develop into an awkward child, minus its clothes.

Then, not only is the photographer denied the painter's facilities for securing models, but, moreover, he is obliged to labor under the disadvantage of having to do all his work from one figure, and is unable to imitate his co-worker of the brush by picking the choicest parts of several. Consequently, he has to pay more attention to the arrangement of the lighting on which graceful curves and modellings of the forms are almost entirely dependent. He is also obliged to study more deeply the complications of perspective, which make a graceful pose so difficult, and which are as apt as not to substitute for a nicely rounded and lighted elbow a rough and jagged point bearing no semblance whatever to an arm. True, an artist *may* strike a pose so happily that imperfections will pass unnoticed, but the fact remains that the camera has a knack of emphasizing bones that project too much, joints that are unduly large, and other such details, while last, and the greatest crux of all, the difficulty of finding a face with beautiful and regular features and intelligent expression, in connection with a perfectly proportioned figure, is so great one dare not face the arguments against any reasonable hope of getting it. Yet, to allow this to be an impossibility, would be like saying, in so many words, that successful pictorial photography of the nude is impossible—save in some poses where the face is not the central interest of the picture. Recall, if you will, the popular paintings of the world, and you will at once realize how few fulfill such a condition, and at the same time you will understand how it is the business of the artist to supply the emotions that are not always visible on the face as they are felt. Frequently, intense excitement appears stolidity; grief is more grotesque than pathetic; and adoration, rapt and ecstatic, looks like boredom. Be he of the brush or lens, it must be the artist who conveys the impression to the beholder. Compare anything but the very best photographs with some of the Old Masters, and you will at once see how the dramatic spirit has escaped the lens just as it eluded the brushes of all but the most skilled. It is, however, against the experience of photographers to find a complete perfect figure. Clothing and shoes tend to produce deformities, more or less marked. Even the very carriage is altered, when the bare foot comes in contact with a carpet. How much more then, must it be changed when the artist decides to work out-of-doors. Moreover, the painfully exact work of the modern plate and lens record all too vividly the difference, however slight, between the parts of the body which are exposed, and the parts which are not, the tanned parts showing much



CHILD STUDY. By Alvin Langdon Coburn.



THE LACQUER BOX. By F. Holland Day.

darker, and giving the rest a bleached and white appearance that is highly unfavorable to the finished print. To this fact it is highly probable that a portion of the success of the well-known Italian worker, Count von Gloeden, may be be traced, for, in his country, the frequent sun-baths, that it is the custom to take, tan the skin to a ripe olive, that causes it to assume a fairly uniform depth of color all over.

In the photography of the nude there is a side so full of danger, and so beset with corruption, that it is best to boldly admit its existence, and, once for all, to strongly insist that we are treating the whole question as art alone, and the matter is approached solely and absolutely as a department of the Study of Art. This way of looking at it, however, practically forbids commercialization, by exposing such pictures for sale to the general public, and places them rather on the level of exercises in technical skill done by artists for their own and their fellow artists' enjoyment and instruction, instead of for those who are incapable of appreciating their real beauty, and only too ready to be interested from very different motives.

But, in referring to decorative figure work, we do not necessarily mean merely the study of the nude. As an example of this, take a look at "The Trinity of the Dawn," with its marvellous posing; "The Laquer Box" and its extraordinary texture, or Coburn's "Child Study," notable for its simplicity of compositon. Any one of these is proof positive that our models may wear clothing and still be possible as subjects for artistic work. The average photographer, when he hears of figure studies, at once jumps to the conclusion that nudes are meant, so thoroughly are the two words blended in his mind. It never occurs to him that it is not the figure alone that makes the picture, that it is, instead, everything inside the boundary of his dry-plate, the arrangement, and the relation which each part bears to the others. That is what is called composition; and, though very necessary in both nudes and clothed pictures, it is even more necessary where the central interest lies not in the modelling of the body. There are those who insist that skill in posing is an inherent quality, and something that cannot be acquired by any amount of teaching. To those, however, who realize that posing, like speaking, writing, drawing, and so on, is simply a method of expression, the fallacy of this claim is very apparent. The mastery of the art is simply a question of the understanding of the significance of certain forms and their relation to each other.

In looking over this superficial sketch of the possibilities of photography in the line of decorative figure work, one must not jump hastily to the conclusion that figure studies, with a camera, are easy to handle. They are not. Not only are they subjects requiring a thorough understanding from the technical standpoint (which includes lighting and posing), but, moreover, one must possess, in a rather high degree, that temperament which will so enable him to express his ideas as to cause his productions to have for the onlooker some significance more than merely that of a fine piece of chemical manipulation. Yet, is not the representation of the "human form divine" the highest point at which we can aim? In spite of all the satire and ridicule that figure photography is subject to suffer from the wielders of the brush, the time is not far distant when this branch of the art must, of necessity, take a very prominent place in the world of black-and-white.

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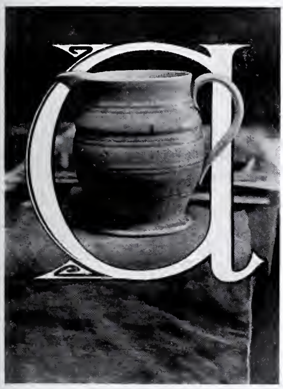
THE BLUE PITCHER.

BY "CHIPPENDALE."



ASSOCIATION has much to do with things.

Objects oftentimes common-place in themselves, become either by usage or by the personality of their owner, interesting and vested with a personality of their own. It may be that an unusual dependence is placed upon them, or through some whim of their owner they are used for purposes other than those for which they were originally designed.

Have you not yourself, at some time or other, come in contact with some inanimate object which to all intents and purposes, as far as you were concerned, was a living and active being, endowed with both sight and hearing, and, to you, capable of comprehending what you said to it, and responding in a language which perhaps you alone understood?

Even the most practical of us have these fancies and would feel a sense of personal loss at the removal or destruction of some familiar object with which we come in daily contact.

The writer has in mind a fat, comfortable blue pitcher which stands in dignified silence upon a shelf, its sides unadorned with useless ornament, every curve and line, and the substantial handle seeming to say, "I am a personage; do not profane me with idle touch. I have work to perform, a mission in life, and as looked up to, not merely because I occupy a high position on this shelf, but because I am the associate and aid of one who *does things*.

"I am the arbitrator; I say how much or how little. It is true my sides do not indicate in graven lines and numerals petty ounces and drachms; my owner knows me better than that. In fact, my knowing when I have enough has had much to do with my advancement in life.

"In my youthful days I performed many of the acts usually falling to the lot of blue pitchers, for I am of common origin; many times have I guarded refreshment for parched lips, and never once did I fail in my duty, always upright, leaning neither to the right nor left, and never failing to deliver my contents to the eager and grateful recipients.

"Determined early in life to become more than an ordinary pitcher, I attended closely to my duties, and soon attracted the notice of my owner. Realizing my ability and capacity I was soon removed from my idle and unambitious associates and taken to commence upon my real work in life. At first my surroundings seemed strange; the absence of gleaming silver, polished maghogany, flowers and bright lights made me feel strange and low spirited, but my being so closely in touch with my owner, and my naturally receptive nature soon made me feel at home, and I no longer missed my former life.

"In the years that have followed I have been instrumental in bringing gladness to many hearts, joy to the maiden in the bliss of her first love, hope and faith to the wanderer in far off lands, peace and contentment to many a dear old mother. Truly, mine has been a labor of love. Many times have I been made glad by the rush of children's feet, and the sound of innocent laughter; many happy little gatherings have I witnessed when care and work were cast aside for a golden hour or so. I have heard words of comfort spoken to the despairing, sound advice to the heedless, and praise to the aspiring.

"I have learned much and said nothing, and will be content to faithfully perform my allotted tasks as I am only the pitcher in which Mrs. Käsebier compounds her developer."

A SUMMER EVENING. By Chas. E. Wanless.

THE ACTIONS OF THE DIFFERENT CHROME-COMPOUNDS UPON GELATINE, AND THEIR IMPORTANCE FOR PHOTOGRAPHY.

BY PROF. R. NAMIAS.*

AMONG the metal compounds causing gelatine to become insoluble, the chrome-compounds undoubtedly take the first place. But as the different chrome-compounds show an essentially different behavior, it seems to me of use, to investigate the actions of the same a little nearer in a comparative way. For this purpose I used sheets of dry gelatine of equal thickness and size, which were immersed in the different solutions, whereby I observed their expansion in the baths, as well as their subsequent transfer in water, and finally also in weak acid solutions.

It is generally accepted that the ordinary chrome-alum—a double sulphate of chrome and potassium of the formula $K_2Cr_2(SO_4)_4 + 24\ H_2O$—is of the greatest action.

According to my observations, solutions of the same of any concentration are only of a small action, which is to be ascribed to the sour reactions. Every solution of a chrome salt, which shows distinctly the latter reaction, becomes incapable to make the gelatine insoluble. The addition of a small quantity of ammonia, at ordinary temperature, to make the acid insensible, has only a moderate success, as a precipitate of chrome-hydroxide forms hereby, which is only partly dissolved again by the acid present. Only when the operation is performed warm, one will succeed to neutralize the liquid completely by a gradual addition of ammonia. Hereby it is recommendable, to let a small surplus of ammonia predominate in such a way that, even after prolonged cooking, a little chrome-hydroxide remains undissolved.

Under this condition it may be accepted that a weak basic chrome salt forms, which exercises upon the gelatine the maximum of the tanning action. And a 20 per cent. chromate solution, treated in the same way, is actually capable, after one hour's action, to make the gelatine insoluble in such a way, that the same will not be able to expand, even in a 1 to 2 per cent. solution of muriatic acid. After a twelve-hours' action of the neutralized chrome-alum solution, the gelatine film becomes so hard that it has lost all flexibility.

Ammonia-chrome-alum is analogous in its behavior to the potassium-chrome-alum, and is only of a little less action after neutralization than the latter. Other chrome salts, like the chloride, the acetate and the tartrate, effect even after neutralization with ammonia a small insolubility of the gelatine. As known, the cause of the gelatine becoming insoluble in the presence of the chrome salts, is to be ascribed to a not yet defined compound of the same with the forming chrome-oxide. Why the chrome-sulphate exercises now the greatest action is, according to my judgment, to be ascribed to the efforts of the same to split into chrome-oxide and sulphuric acid in solution, while with other salts, as those of the organic acids, this dissociation effort is a minimal one, or the tendency to form chrome-oxide, is not present. The chrome-chloride shows thus an endeavor to decompose into the iones Cr and Cl—the presence of chrome-oxide in a solution of chrome-chloride can therefore not be accepted. The presence of free acid in the solution, as easily comprehensible, renders difficult the separation of the chrome-oxide and its connection with the gelatine, while the presence of the basic sulphate facilitates this. By replacing the chrome-oxide through repeated use of the solution of the chrome-sulphate, this becomes gradually acid, and is, therefore, more and more less suited to make the gelatine insoluble, which I have proven experimentally. Gelatine exposed to the action of neutral or basic chrome-alum shows even after prolonged washing a greenish coloration, which seems to point to the fact that, instead of a connection of gelatine and pure chrome-oxide, such a one will form of gelatine and a constant basic chrome-sulphate.

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* Translated by Henry Dietrich.

Besides the chrome salts I have also made the dichromates and the chromates subjects of my investigations, and their action upon gelatine (at exposure) seems to be analogous to that of the chrome-sulphate. If we accept that chrome-chromate ($Cr_2(CrO_4)_3$) will form first, this will act similar to the chrome-sulphate ($Cr_2(SO_4)_3$); besides this, the chrome-chromate undoubtedly has a greater tendency to decompose (in $Cr_2O_3 + 3\, CrO_3$), as the sulphate, therefore making the gelatine easily insoluble, even in the absence of water. Other facts have determined me, however, to conclude, that the action of the dichromates in light is probably another one, as that of the chrome-sulphate. I prepared a solution, which was to act the same as the dichromate reduced in light, in such a way, that I cooked a concentrated solution of the dichromate with grape-sugar so long, until I obtained by a partial reduction of the dichromate a brown

SPRING TIME. By W. A. I. Hensler.

liquid. The same effected only a moderate insolubility of a gelatine sheet. It seems to be no doubf, therefore, that the oxidizing action of the dichromate plays also a part at exposure. Besides this, a gelatine sheet, which was exposed to the action of the dichromate in light, becomes quite colorless by long washing, while one which has become insoluble through chrome-sulphate, retains always its greenish coloration. It has to be remarked, however, that in spite of the long washing, the gelatine mixed with the bichromate, and having become insoluble in light, will never entirely eject the chrome, as the presence of chrome-oxide could always be proven by repeated analysis. Besides the chrome salts, the aluminium salts exercise a tanning action upon gelatine, but much less than the former.

If, however, to a 10 per cent. chrome-alum solution, which contains a little chrome-hydroxide in suspension, precipitated by ammonia, a 10 per cent. alum solution is added, and the mixture is cooked for some time, a solution of energetically tanning properties is obtained, which, however, does not color the gelatine so strongly as the chrome-alum alone. The investigations made are of some importance, as they show under what conditions the chrome salts possess the greatest tanning action; thus the above-mentioned neutralized chrome-alum solution permits, by stripping the negative film from the glass, to execute the work with the greatest security. The hardening of the film is so great, that even a strong solution of fluor-hydrogen acid is not capable to produce any stretching, so that the stripping from the glass takes place without difficulty. If the picture-film is to be kept loose, it is sufficient to squeegee it upon a glass plate after some washing, from which it can easily be removed when dry.

For conserving the negatives upon celluloid, which, as proven by me recently, suffer damage in the course of time by the mephytic compounds which develop from the celluloid, the hardening of the picture, as described, is of great advantage.

The great capacity of resistance against acids of the gelatine, tanned with basic chrome-alum, has pointed out to me the possibility to apply the same as a reserve in etchings of metal plates with nitric acid. My investigations are to be continued.

PORTRAIT. By Charles J. Damph.

IN FARAWAY LAND. By Mr. Hord.

LOUIS DUCOS DU HAURON.

FEW men, if any, have done more for photography than M. Louis Ducos du Hauron. The following list, in chronological order, of his principal inventions and chief scientific communications will be read with interest by those of our readers who study the scientific character of our art. It has been compiled especially for this magazine by M. Ducos du Hauron himself:

January 20th, 1859—Communication to the Société des Sciences et Arts of Agen of an extensive memorial, with the heading, "Study on the Luminous Sensations."

July 14th, 1862.—Communication to M Lélut, Member of the Institut, of a method of photographic reconstitution of colors by triple sifting of the rays and by triple reversion of prints.

March 1st, 1864.—French patent of 15 years, under No. 61,975: Apparatus intended for reproducing photographically any scene whatsoever, with all the transformations which it underwent during a certain time. (Chronophotography, called to day Kinematography.)

December 3d, 1864.—Certificate of addition to the above patent.

November 23d, 1868.—French patent of 15 years, under No. 83,061: Colors in photography; solution of the problem.

March 11th, 15th, 16th, 20th and 25th; April 1st and 6th, 1869.—Series of articles by Louis Ducos du Hauron, published at Auch by the journal *Le Gers*, under the heading, "Colors in Photography: Solution of the Problem."

May 7th, 1869.—First communication, addressed by L. Ducos du Hauron to the Société Française de Photographie (Bulletin of the Society, 1869, p. 122 foll.), on the subject of "The Photography of Colors."

1869.—"Colors in Photography: Solution of the Problem." Pamphlet in 8mo. of 59 pages; Paris, A. Marion, editor, 16, cité Bergère.

May 26th, 1869.—Letter to M. Lacan (*Moniteur de la Photographie*, number of June 1st, 1869).

July 7th, 1869.—New communication to the Société Française de Photographie on the subject of "Photography of Colors" (Bulletin of the Society, 1869, p. 180 foll.); pages 177 to 180, same number, contain a letter of the late Ch. Cros.

July 15th, 1869.—French patent of 15 years, under No. 86,069: Motor-vane or horizontal windmill; analogous system of hydraulic wheel.

July 21st, 1869.—Letter of L. Ducos to M. Victor Mennier, editor-in-chief of the journal *Le Cosmos* (*Le Cosmos*, number of July 24th, 1869, p. 89 foll.).

January, 1870.—"Colors in Photography, and, in Particular, Heliochromy with Carbon." Pamphlet in 8mo., 83 pages; Paris, A. Marion, editor, 16, cité Bergère.

April 9th, 1874.—"Heliochromy." Important discoveries, experiments and improvements. Letter to the President of the Société Française de Photographie. Pamphlet in 8mo. of 15 pages; Agen, printing office of Prosper Noubel.

September 24th, 1874.—"Heliochromy." New letter to the President of the Société Française de Photographie. Pamphlet in 8mo. of 8 pages; Agen, printing office of Prosper Noubel.

December 15th, 1874.—French patent of 15 years, under No. 105,881: Heliochromic dark chamber, or photographic apparatus, intended for the simultaneous production of three or more proofs of one and the same subject.

April 5th, 1875.—"Heliochromy: Improved Method for the Formation and the Superposition of the Three Monochromes Forming Heliochromes with Gelatine." Memorial dedicated to the Société d'Agriculture, Sciences et Arts, of Agen; 12 pages in 8mo.; Agen, printing office of Prosper Noubel.

September 6th, 1875.—"Heliochromy: New Researches on Heliochromic Negatives; Rapidity Found; Landscape and Portrait from Nature." Memorial dedicated to the Société d'Agriculture, Sciences et Arts of Agen; 10 pages in 8mo.; Agen, printing office of Prosper Noubel.

July 24th, 1877.—French patent of 15 years, under 119,457: Production of the three negatives forming a positive heliochromic proof. New method founded on the properties of eosine with interposition of colored mediums.

April, 1878.—"Practical Treatise of the Photography of Colors: The Louis Ducos du Hauron System of Heliochromy." 108 pages in 8mo.; Paris, Librairie Gauthier-Villars.

December 17th, 1885.—French patent of 15 years, under No. 173,101: Triple photographic apparatus intended for the simultaneous taking of three negatives free of stereoscopic differences.

December 18th, 1885.—French patent of 15 years, under No. 173,102: New mode of "mixtionized" papers or analogous products for carbon photography, so-called, characterized by the provisional incorporation of a coloring substance.

January, 1888.—"The Color Photography of M. Louis Ducos du Hauron." 13 pages in 8mo.; Agen, printing office of A. Bouger.

June 2d, 1888.—French patent of 15 years, under No. 191,031: The transformism in photography by the power of two slits.

——, 1889.—"The Transformism in Photography by the Power of Two Slits." Communication by M. Louis Ducos du Hauron to the Société Française de Photographie. 14 pages in 8mo.; Algiers, printing office of A. Bouger.

May, 1891.—"Photography of Colors: Photo-mechanical Reproduction of Colors in Unlimited Number of Copies." Communication to the Academie des Sciences. Pamphlet of 16 pages in 8mo.; Algiers, printing office of Veuve A. Bouger et fils.

July 6th, 1891.—French patent of 15 years, under No. 214,666: A tube producing caricatures in photography by the means of two slits crossing each other at a distance.

September 15th, 1891.—French patent of 15 years, under No 216,465: Stereoscopic prints, photographs and pictures, producing their effect in bright daylight without the help of the stereoscope (anaglyphs).

January 19th, 1892.—Letter to Mr. G. Mareschal (*Photo-Gazette*, number of February 25th, 1892, p. 63 foll.).

August 20th, 1892.—French patent of 15 years, under No. 233,817: Special negatives for the production, in printing, by means of three inkings only and on all presses, of the photography of colors, either typographically or by transposition, and generally by all processes of heliographic engraving.

November 18th, 1893.—"The Art of Anaglyphs." Communication to the Société Française de Photographie, 1894. Pamphlet of 7 pages in 8mo.; printing office of Mustapha, A. Cougnard (Algiers-Mustapha).

January and February, 1894.—"Photographical Magnifying Without Objective (obtained by the simultaneous gliding against each other of a transparent proof and a sensitive surface, with interposition of a fixed opaque pellicule having a very fine transparent line). Article published by the *Photo-Revue Africaine*, numbers of January 20th and February 1st, 1894.

February and March, 1895.—"Direct Counter-types, Entirely Transparent, of the Same Sign as the Standard Proofs." Article published by the

Photo-Revue Africaine, numbers of April 15th and March 1st, 1895.

April and May, 1885.—"Concerning the Process of Photography of Colors Employed by Professor Joly, of Dublin." Article published by the *Photo-Revue Africaine*, numbers of April 1st and May 15th, 1895.

May 20th, 1895.—French patent of 15 years, under No. 247,775: Photographic apparatus with curved mirror, yielding by anamorphosis and without rotating mechanism a correct panorama, produced either graphically or by projection.

September 17th, 1895.—French patent of 15 years, under No. 250 802: Chromodialytical Polyfolium Book, with transparent leaves formed by an alternation of colored screens and of sensitive plates or pellicules, by means of which one obtains simultaneously, in any dark chamber, the three phototypes intended for the photographic printing in three colors.

December, 1895.—"Photography in Three Colors Reduced to Two." Article published by the *Photo-Revue Africaine*, number of December 1st, 1895.

First Quarter of 1896.—'Improved System of Plays of Colors Called Polychromatic Analglyphs (Analglyphic Trichromy)." Article published by the *Revue Suisse de Photographie.*

August 29th, 1896.—French patent of 15 years, under No. 259,399: New optical combinations radically suppressing any intermittance in the lighting of the photographic exhibits called moving pictures (chromophotographs), and allowing considerably to reduce the number of the proofs required for producing the same.

1897.—"Triplex Photography of Colors and Printing: The Louis Ducos du Hauron System of Photochromography." Edited by the inventor with the assistance of his brother, Alcide Ducos du Hauron; 488 pages in 12mo.; Paris, Librairie Gauthier-Villars et fils.

March 6th, 1897.—Filed in the Tribunal of Commerce of Paris, and October 26th, 1897, French patent of 15 years, under No. 271,704: Chromographoscope, or Chromographic and Chromoscopic Apparatus, triplex or multiplex, stereoscopical if desired, based on the combined use of ordinary mirrors and of transparent reflectors, more especially of pellicular reflectors.

May 16th, 1899.—French patent of 15 years, under No. 288,870, and foreign patents: The Melanochromoscope, apparatus for popularization and of reduced dimensions, intended for taking simultaneously (as with the Chromographoscope) the three negatives for Trichromatic Photography. The same apparatus serves also for the synthetical vision of colors. The patent embraces four variations of the arrangement; two of the same, less simple than the others, have unfortunately been commercially abandoned, although they give more perfect results. There is, besides, an addition of alignment plates.

May 3d, 1900.--Filing in the Tribunal of Commerce of Paris of Plates, pellicules or cardboards in colors, yielding by the action of light and by a simple washing with water, images either of a single color or polychromatic.

1900.—"The Indirect Photography of Colors." New operating processes within reach of all, followed by the most recent theoretical and popularizing definitions of the system. Illustration in Colors by Messrs. Prieur & Dubois. Paris, Charles Mendel, editor, 118 and and 118 bis, rue d'Assas.

April 27th, 1901.—French patent of 15 years, under No. 810,340: Chromoscope with free vision. Apparatus intended for seeing the synthesis of colors without being compelled to look through a narrow opening, free or provided with an ocular. A whole assembly can enjoy the spectacle at the same time.

June, 1901.—"The History of Trichromatic Photography," reply to Mr. Ives. Article published by *La Photo-*

graphie Française, edition of May and June, 1901. Librairie Brinwald, Schleicher frères successeur, Paris.

July 4th, 1901.—Sealed paper, deposited with the Société Française de Photographie, for: Machine for weaving, creating rapidly, automatically and at little cost, photographic wefts.

April 17th, 1902.—Sealed paper deposited with the Société Française de Photographie, for: Arrangement of Stereoscopic Kinematograph or of Kinema-Stereoscope, permitting to obtain, on one single negative ribbon and even with one single objective, the series of images intended for the right eye and the series of images intended for the left eye.

May 2d, 1902.—Sealed paper deposited the Société Française de Photographie, for: Reversible Kinematographic Panorama or Photorama.

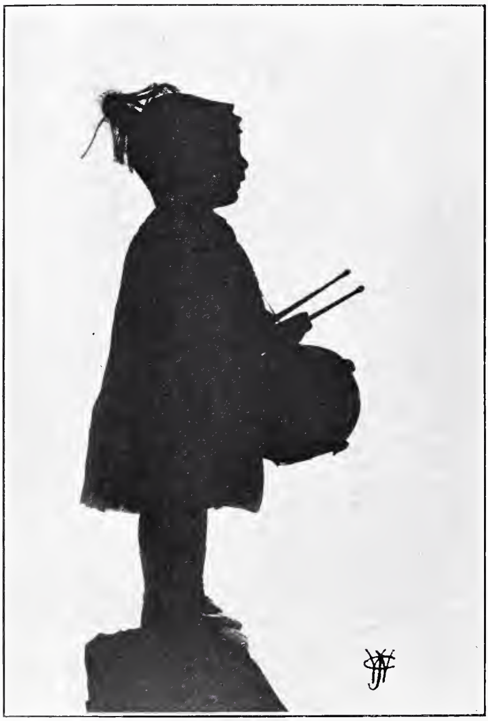
May 21st, 1902.—Sealed paper deposited with the Société Française de Photographie, for: Manufacture of pellicular transparent reflectors and of pellicular silvered or metal-covered mirrors.

THE DUST CART. By W. A. I Hensler.

PHOTOGRAPHIC SILHOUETTES.

BY JOHN C. WARBURG, LONDON, ENGLAND.

ABOUT a year ago, I made a series of photographic silhouettes. They were all from the same child model, and most of them represented nursery rhymes and subjects. They had some little success in competitions, and many who saw them were pleased with them. My American friend called them "cunning," an adjective we don't use in that way over here, and asked how they were done.

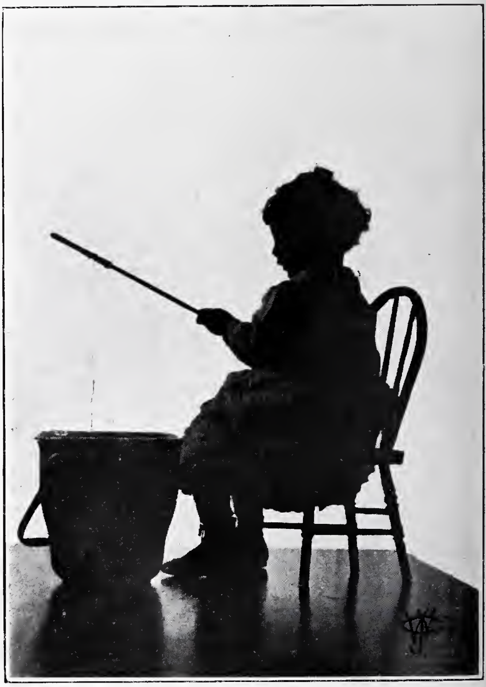


No. 4.

As the procedure is fairly easy, and capable of charming results, it may interest some of the readers of this magazine to have working details and illustrations.

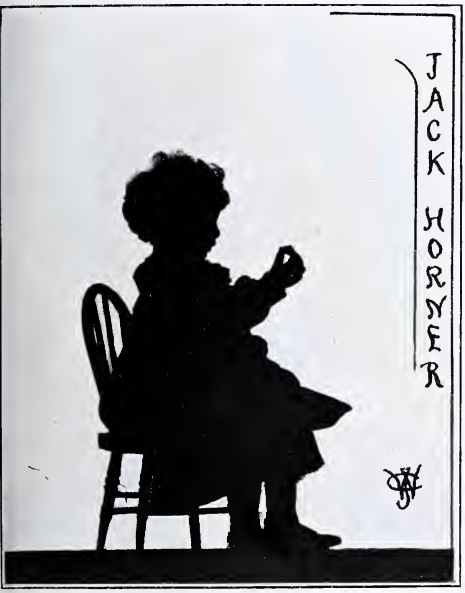
The silhouette, in its original non-photographic form, was invented by a French minister of that name. Cut out of black paper, with a pair of scissors and pasted on to white paper, it formed an economical, if not wholly satisfactory substitute, for the miniature on ivory. These silhouettes often had details—such as the eyes and hair and buttons, added in gold paint.

The photographic silhouette possesses one advantage over the original form, and that is, that while it can be made absolutely black, it may also be taken in such a way as to give a certain amount of modelling, while preserving the distinctive character of the silhouette. In my own work I have used full-length figures for the purpose in view; but nothing prevents the application of the methods to bust portraits. The *modus operandi* is as follows: A sheet is



No. 2.

stretched across a window; the model posed between it and the camera, and a short exposure given. I commend the following working details to my reader's notice:



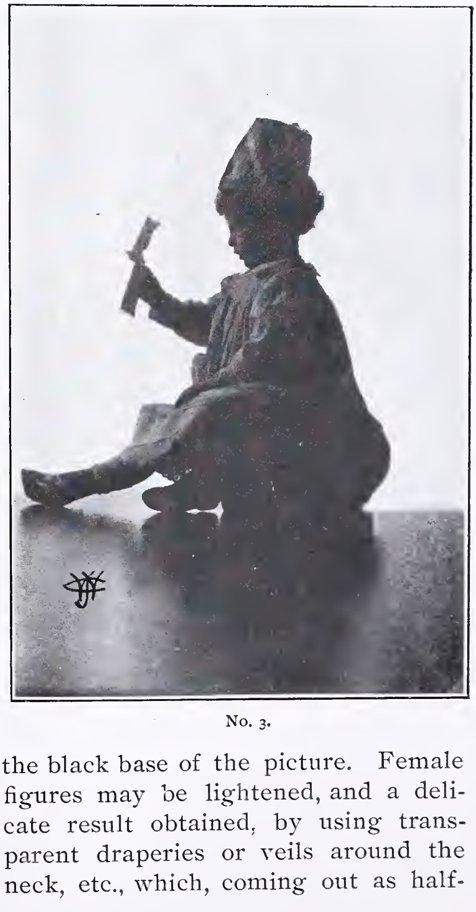
No. 1.

The *sheet* should not be close enough to the window to show the shadow of the window bars. The tighter and smoother it is stretched the better, as it saves trouble in blocking out the negative.

If one wishes to do many silhouettes, it would save a great deal of bother in this direction to have a sheet well stretched (preferably when damp), and glued or tacked to a wooden frame of sufficient size.

The lighting: For an all black silhouette (such as Figs. 1 and 4), no light should shine directly on the camera side of the sitter—diffused light does not matter. For a modelled effect, like Figs. 2 and 3, the sitter is lighted a little from the side. The illustrations were taken in an ordinary sitting room with a bay window. The sheet was hung in the middle window of the bay. One of the two side blinds was let down for a partly lighted silhouette, or both for a black silhouette.

The model should be so placed that the black outline of the face and limbs explains itself sufficiently; that is to say, the head will practically always be in profile, and the limbs, which are to show, should detach themselves from the body. If both legs are to be visible, it is generally advisable to show a space between them, so that they are not mistaken for one unduly swollen leg. (Note this fault in Fig 4). If the figure is a full-length one, the model should be placed on a table, and, if the lens be arranged on the exact level of the table top, the latter will appear as a line and not as a surface (see Fig 1.). The feet will then appear in profile instead of merged into the black base of the picture. Female figures may be lightened, and a delicate result obtained, by using transparent draperies or veils around the neck, etc., which, coming out as half-



No. 3.

tones in the result, modulate the severity of the black.

Accessories should be simple, and pertain to the subject. In such a severely archaic style as the silhouette, unnecessary accessories, objectionable always, would be intolerable. They should be very sparingly used, and the object aimed at should be to achieve a result which explains itself in as simple and direct a manner as may be.

Such accessories as are used should, of course, be placed in a position in which they are easily recognizable* (like the utensils, and other objects, carried by the figures in ancient Egyptian bas reliefs).

The lens and plate require little attention; the latter should give good contrasts. The exposure required is short —say, 1-15th of a second, with an ordinary plate at f/8.

Finishing: If the sheet has been well stretched and the exposure suitable, it should be possible to print from the negative without further preparation. If (as was the case when the accompanying illustrations were produced) the sheet hangs in wrinkles, these will show on the negative, and the background will require blocking out with black or red paint. In the case of figures posed on a table, the table top may be partly blocked out so as to form a base to the figure (see Fig. 1). Printing should be in platiuum.

Mounting: It has been said that silhouettes only look well mounted on white. I have not found this to be the case. They look perfectly well on brown or other colors, but elaboration should be avoided.

Conclusion: The various directions I have given above, should merely be considered as suggestions, prompted by a little experience. They may save the beginner trouble; but he need not hesitate to alter them. The silhouette, in its simplest form, consists of a black figure on a white ground; but as I have pointed out, the black of the figure may be modulated. In the same way, there is no reason why the background must be white. Titling, lettering, or signatures, may be added in Indian ink; white letters may be blocked out (reversed) on the negative.

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* The pie-dish in Fig. 1 might have been better. The "plum" was a cork.

REVERIE. By Chas. F Inston.

SPECIALIZING IN PHOTOGRAPHY.

THE following are abstracts from Mr. James Burns' presidential address before the Edinburgh Photographic Society:

"In the early stage of our photographic career we are all keen and enthusiastic. The glamour of every phase of the production of a photograph absorbs all our energies, our leisure, and a great deal of our spare cash. This goes on for a long time, until, like the child and the toy, we look around for something fresh. Once we have got over being a nuisance to our own family circle and acquaintances, and, perhaps, still more so to the photographic dealer—whose life is not to be envied at times, judging by the insane questions he is asked about points which could be easily cleared up by buying, and, above all, studying a shilling manual on photography, and also by the cool demands made on his time, as one of our members puts it, 'for a pennyworth of hypo and a shilling's worth of information'—we then frequently feel photography beginning to pall. Taking 'the usual thing' does not interest us—snapping at everything is tiring. Particularly in developing and printing, which used to have such a delightful uncertainty about what kind of result would accrue as to fascinate us entirely, do we begin to find photography most monotonous; in short, we are losing interest. There are a few, no doubt, who never quite reach this stage, but remain nuisances for life, and try everyone, as well as every plate, every new developer, every new paper, and every other miscellaneous adjunct of photography devised for the special benefit of those who must have always something new. We cannot help admiring the enthusiasm of this kind of a photographer; and, indeed, we ought almost to feel grateful to him for bringing home to us the fact that even photography has its humerous aspect. However, it is with the more numerous contingent who are losing interest in photography that we have to do; and, if they be caught at this stage, and their attention directed to the many phases of specialization in photography open to them, much may be done to make good and useful photographers, if they be but persuaded to take up one phase or other and specialize. What a wide field is open for their energies! According to inclination and temperament, so will they select; but, whatever it be, it may become much more than a mere hobby, if they go into it with a heart and a will.

"To begin to enumerate all the many aspects in which one could specialize is out of the question to-night, but a few may be briefly alluded to. On the purely scientific side of photography take photo-micrography. What an absorbing pursuit it may become, if our interest in it be once awakened! Last session we were favored with a most interesting paper on this phase of photography by Mr. Forgan. His knowledge of the subject was amazing, and he gave us a practical lesson of what 'specializing' meant. His photo-micrographs of various natural objects, even of grains of sand, were a marvelous revelation of beauty, and a hint of what wondrous realms of knowledge lie hidden around us in the most trivial objects, yet ever there for the specialist to capture, not alone for himself, but to exhibit to others. All of us recollect the most excellent paper and demonstration given a year or two ago by Mr. Tudor Cundall on that most fascinating of photographic problems—color photography. The results he showed us on that occasion were enough to force us to admit color photography was something more than a mere dream. To treat, or even attempt to deal, with the subject in the fashion Mr. Cundall did, would of course imply the necessity of a scientific training; but quite recently there has been put on the market more than one process of obtaining positives in natural colors that is within the reach and capacity of any level-headed photographer. Indeed, there has just been introduced one process which, at a very nominal cost for necessary materials, will enable any photographer, who has already a camera, to produce, with a little study, care, and patience, lantern slides in natural colors.

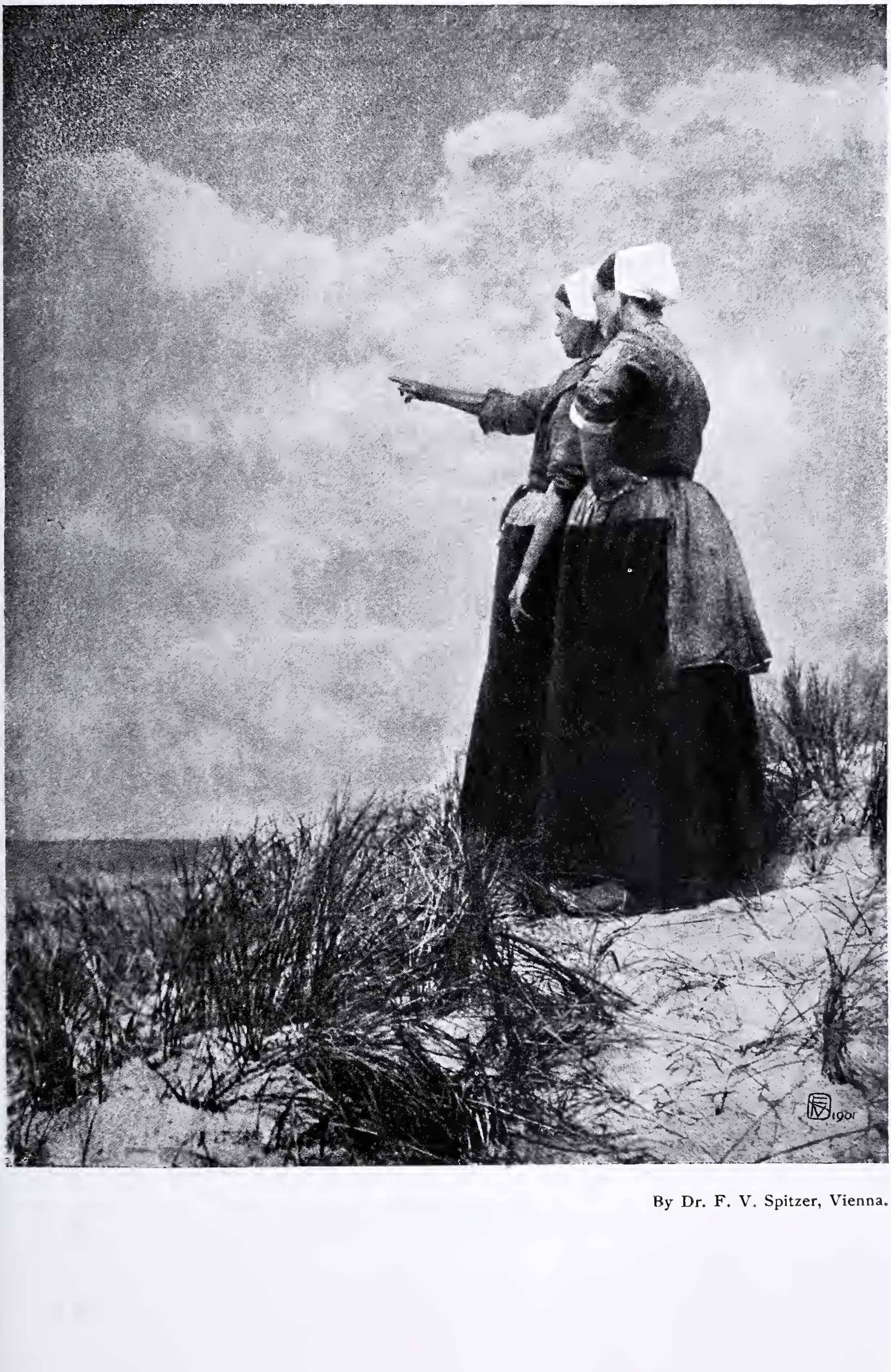
"Many of us are familiar with the work done by the brothers Kearton, Lodge, and one or two of our own members, in the field of portraying birds and their nests in their native haunts. Judging from the difficulties which the devotees of this side of photography face and encounter, and, better still, overcome, in the quest after results portraying the haunts and habits of our wild birds, this phase of photography is one that may well occupy all the leisure anyone can give to photography. We may see almost anywhere examples of animal photography the work of one of our own members—Mr. Charles Reid, of Wishaw—which could only have been obtained after long effort and untiring patience; but how splendid the result! What fields, then, are open ever in these two latter aspects of photography for the photographer to specialize!

"Other fields of knowledge, where the photographer might specialize and find absorbing work for a lifetime, are astronomy and geology; but these must only be mentioned in passing, as they require considerable knowledge and training beforehand to enable one to do satisfactory work.

"The subject of architecture is one in which the photographer can easily specialize and acquire valuable knowledge as he goes along. It is a subject which furnishes material for portraying almost anywhere we like to go. Architecture has its difficulties; but it might well be more popular among photographers. We may not all be able to look with the eye of the architect on the many and varied forms of architecture; we may not all be able to appraise the value from an art point of view of every piece of architecture we see, but the subject is one of the grandest to which a photographer may devote his energies and skill. It is capable of being treated with the loftiest sentiment and poetical feeling; with the utmost breadth, and in the most minute detail. Any old cathedral may furnish work for many years. In our city and neighborhood architectural subjects, both ancient and modern, abound. Here is a wide field for anyone to labor in photographically. Every day almost sees old landmarks, hoary with age, historical associations, and romance, being swept away by the ruthless march of modern improvements. In many instances such are being demolished without any record being in existence to hand down to future generations as to what they were like. Surely, then, even in survey work, many photographers might find so much to do that would be of such incalculable value to posterity, that the cry of 'losing interest in photography' might well be dropped for many years to come. To those of you who affect no special phase of photography, as well as to those who do, let me appeal once more on behalf of our own survey section. During the past year it has made a little more progress than formerly, but nothing like what it should or might have made. It is astonishing the apathy members show regarding such a splendid scheme as this, if it were only carried out in the spirit in which it was conceived. It is known generally in photographic circles that we have had such a scheme on hand for a year or two now. But what have we to show as results? So far, nothing very much. Visitors to our city see, seemingly, much better than ourselves the wondrous beauties of our grand old buildings and our gray old town. We have our reputation, I sometimes think, at stake in connection with this matter of the survey. To me, personally, it would be a lasting disgrace if a society, such as ours, with an honored and unique history in the annals of photography, were to allow this scheme to fall through. Let us then be up and doing; let us realize that it is a work in which we should feel it a proud privilege to be allowed to take a share in. With the members, individually, rests the responsibility of the success of the scheme. I cannot bring myself to face the thought of its failure. Whatever arrangements, therefore, are made by the Survey Committee during the current session ought, and will, it is to be hoped, receive the heartiest support of every member. If this support be given, there can then be no question but the close of the session will see satisfactory progress made in furtherance of the work of the scheme.

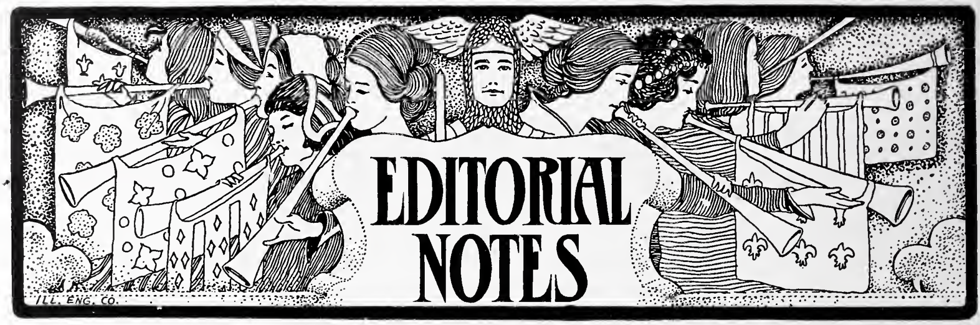
"The last phase of photography to which I wish to allude, in which specialization is possible, is one which has rarely failed for years past to be brought under your notice, and yet is always worthy of reiteration. I refer to pictorial photography. It is not desirable, nor yet is it my intention, to dilate on this aspect to-night. In the course of the session you will be favored with at least one, if not two, papers dealing fully with the subject. A reference, however, seems pertinent, more particularly as to my plea for specialization in our photographic work. Personally, I should, probably, have given up photography many years ago, if I had not been attracted to this aspect of our art. The result to-day is that my ardor is keener than ever. Not the least notable feature of pictorial photography is the wide field open to all, both in portraiture and landscape. The pursuit of the pictorial, if pursued in the right spirit, will become an absorbing passion. The eye will be educated, if we are observant at all to beauty and phenomena in Nature, which may have been a sealed book to us before. Nature will never become a mere matter of subjects for pictures and nothing else. The more we study the wonderful and ever-changing panorama, which in this climate of ours is continually passing before our eyes, the more will we be brought to admire and reverence Nature in all her moods, and the more painstaking we will be in seeking to portray in our attempts at picture-making something of that wonderful glamour and sentiment which so often eludes us, and is so difficult to materalize by photography.

"In conclusion, whatever phase of photographic work we decide to pursue, let us put our whole heart and energies into it. By doing so our interest in the welfare of our art will be stimulated; we will take a keener interest in the Society's work; we will be more helpful to each other, more able and more willing not only to aid in the progress of our art, but in doing what in us lies to maintain undimmed the splendid traditions of our own Society."



By Dr. F. V. Spitzer, Vienna.

EDITORIAL NOTES



We regret very much to announce the death of Robert F. Maier, who, for over twenty-five years, was so well and favorably known to the chemical trade. The business will be continued under the old firm name, and conducted by Anthony J. Maier.

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There are a number of contributors to the 1903 "American Annual" to whom we have been unable to forward authors' copies owing to their addresses being incomplete. All contributors who have not received the "Annual" are requested to inform us.

* * *

About this time the editor is supposed to spread himself on "spring, beautiful spring," and speak of Nature's emerald mantle, sun-kissed flowers, and other things too numerous to mention.

That's all right for the editor living in the country, where grass is not a curiosity, and where the view from his *sanctum* does consist of something besides about a couple of million bricks and a policeman chasing a banana peddler.

Still, spring has its compensations even for the city man; he can at least join with his more fortunate country cousin in the revival of business, and in the carrying out of his plans, formulated during his winter leisure.

If more of us would spend our time during the dull post-holiday season in planning big things for the spring, instead of loafing around "cussing" the weather and the coal trust, there would be less talk of hard times, and fewer notes going to protest at the banks.

Spring is just as good a time as any other for the refurnishing of your mental apartments, if you have sort of grown careless and have fallen into the "let 'er slide" habit; clean house, brush up; get rid of the cobwebs, and make up your mind that the front of the procession is none too good for you. Some one is going to ride the white horse and be the leader, why not you?

* * *

The position of a judge, or as one of a jury of selection for a photographic salon, is in many ways a most trying one; and, if you are true to your ideas, and are governed solely by the merits of the works submitted, you will in all likelihood make a number of good enemies.

Presupposing you have a knowledge of art, and are in every way competent to judge, from the artist's standpoint, it will be a most difficult matter to entirely submerge your prejudice against certain mediums and methods of treatment.

Nearly all of us have some certain favorite branch of pictorial work, the broad treatment and the skillful handling of masses, with but little detail appealing to many of us; while with others minute detail and intricate lights and shadows find favor.

Then another point. Your personal friendship for an exhibitor is a factor entering into your decision, perhaps, even more than you imagine.

It is true that, in most all instances, the names of the exhibitors are not supposed to be known to the jury; it however remains a fact that in many instances the juror recognizes the work submitted as that of a certain worker, and is unwittingly influenced thereby.

At best, the position is a thankless one; and, having once served in such capacity, the average mortal is somewhat hesitant in accepting the position a second time.

* * *

The man standing behind the counter of a retail photographic establishment has many amusing and some trying experiences, arising from the ignorance of his customers, due to their not taking time to "read up" before attempting to produce prize winners.

The story is told of a lady who made an exposure and took the plate into the dark-room to develop it; continued development produced no image; she concluded it was "underdone;" so she put the plate back into the holder, and went out and gave it more time.

A man purchased a camera from one of the big dealers; the next day he reappeared with the camera and a look of deep disgust:

"Look here, Mister Man, this camera you sold me is just about the most inconvenient thing I ever came across; if you can't do any better, you ought to furnish a screwdriver with each one, anyway; took me over half an hour to get the plate out so I could develop it, and then I didn't get anything."

Investigation proved that he had been attempting to develop the ground-glass screen.

Another man returned the camera purchased the day before, complaining that the salesman "didn't fill it with the fluid."

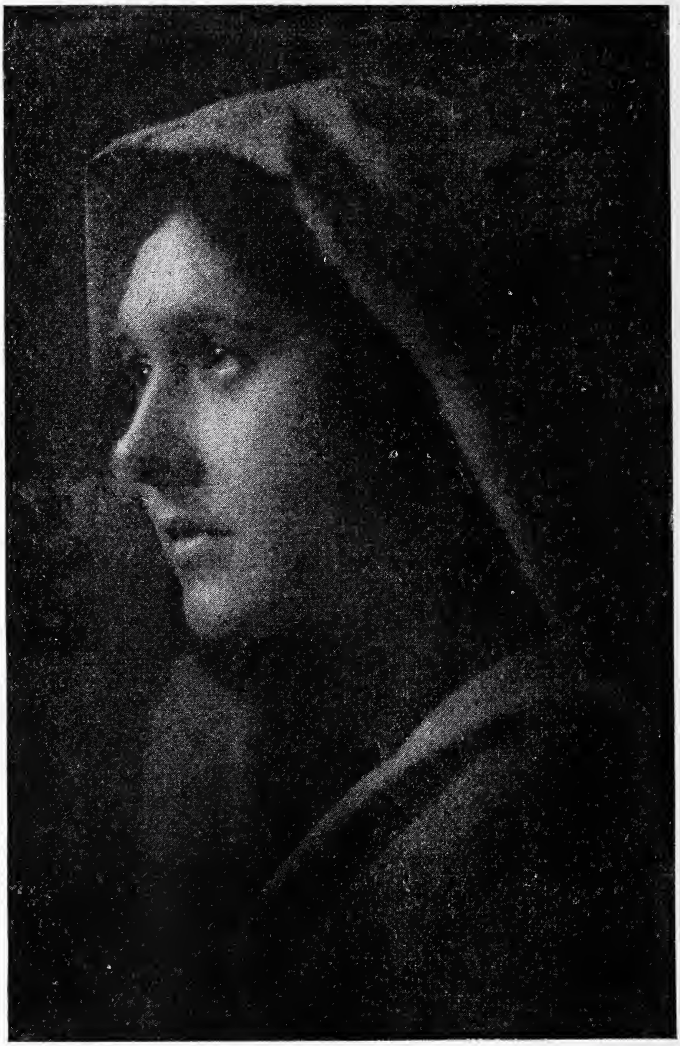
A young lady enthusiast exclaimed to the patient salesman:

"Well, I've tried almost every kind of paper there is; so I guess you can give me a gross of litmus paper, if you'll tell me how to print it."

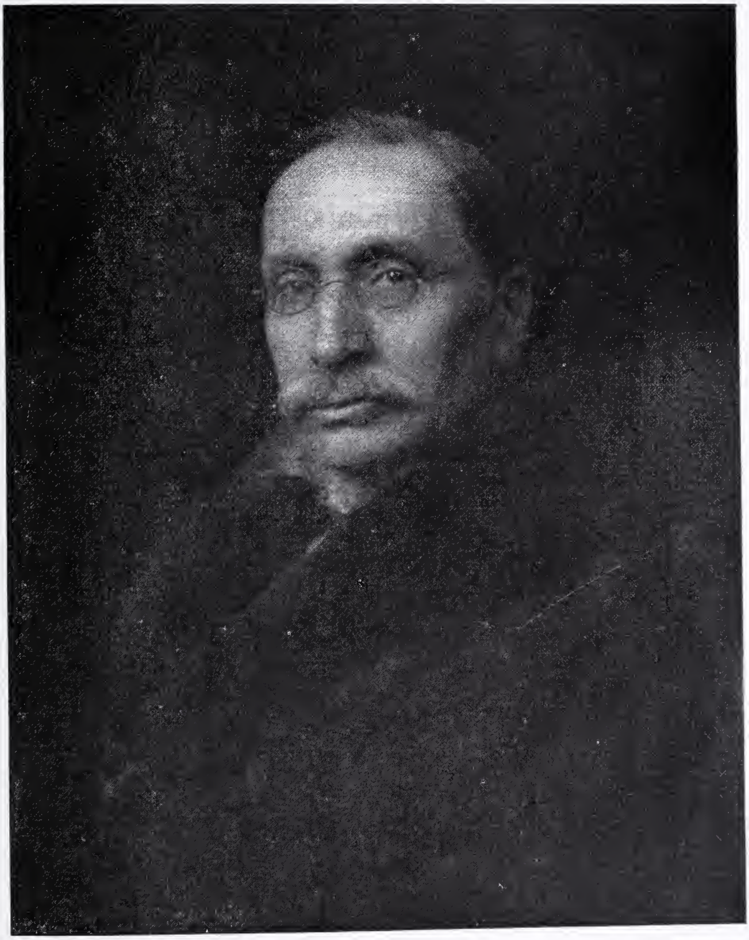
Another young lady, having been told she was over-exposing her plates, stated that she had pasted a piece of red paper over her lens to make it work slower, but it didn't seem to work very well—she didn't know why.

So please don't wonder, dear Mr. Amateur, if your most accommodating dealer sometimes suddenly turns his head away, and has every appearance of speedy dissolution.

A Study. By Nat. Aukerman.



LEAD, KINDLY, LIGHT. By Bessie Stanford.



PROF. W. C. UNWIN. By F. Hollyer.

THE POSITION OF THE VOLUNTARY JUDGE.

A CONFERENCE of judges, or something of the kind, which was held several years ago, under the auspices of the Royal Photographic Society, endeavored to establish some rules, firstly, for the guidance of photographic societies inviting gentlemen to judge at an exhibition; and secondly, in order that the judges themselves might act in unison and be protected against imposition. We never felt very enthusiastic over what that conference accomplished, feeling as we did that it left the more vital questions untouched, and really achieved no larger measure of salvation than the judges might individually have brought about. Several of those most often called upon to act as adjudicators were not in sympathy, and many were made signatories to the agreement who had little prospect of ever having the opportunity to act upon the rules they undertook to observe.

Anyway, it is time some more definite understanding were arrived at as between those who for the good of photography are willing to give their judgment and their time, and those who run exhibitions and desire expert service. The man whose judgment is considered of value, or whose name it is thought may be of service on the prospectus, is probably a very busy man. The position he has attained is attended by numerous demands on his time, and yet too often those acting for the society or exhibition committee are so blinded by the importance which their exhibition possesses in their own eyes that little consideration is shown for the judges. We have before now known a gentleman resident near London asked to judge an exhibition a hundred miles away in the country on a Sunday afternoon, and another instance in which the judge, living some dozen or so miles out of London, was requested to reach the town where the exhibition was held by a train leaving a London terminus at 6.30 A. M. And yet again, with but three days' notice, other gentlemen are asked to attend to judge a London exhibition at 6 P M. Their task could not occupy less than three hours, and surely the one period of the day when a busy man may dine and enjoy the converse of his fellows or the bosom of his family, with the consciousness that the work of the day is finished, is a time which might be preserved from the thankless task of the amateur and honorary judge, for, be it understood, the exhibition judge receives no fee. He may recover his out-of pocket expenses, though in some cases he must press, or at least ask for these. It was under the auspices of the Royal Photographic Society that it was first made an understanding that exhibition judges should be repaid their expenses, and yet the present writer judged three years in succession at the R. P. S. without ever having been offered or ever receiving a single shilling. True, his personal expenses on each occasion did not exceed, perhaps, half a sovereign, having only to make a journey of some hour or hour and a half each way, but the responsible officiers would seem to have imagined he slept on a door-step in Regent Street, and only had to walk in.

Some societies there are for whom it is a pleasure to act in any capacity, and judge or lecturer is made to feel that his railway ticket and a modest hotel bill is paid ungrudgingly; but such cases are not too common.

The subject is a delicate one, and happily it is not now a personal one; but for the sake of those whose names are beginning to appear more often of late as exhibition judges, those whom one may call comparatively new to the work, we should like society secretaries and others to consider that the office of a judge, being a voluntary one, he who fills it is entitled to the utmost consideration; his convenience as to hours should as far as possible be studied. To those interested in the particular show, and who have toiled with their coats off to make the arrangements a success, may find a little light refreshment served on upturned packing cases, and a newspaper for tablecloth, part of the fun; but it is hardly fair to ask men who have come, perhaps a long journey, and are accustomed to the decencies of life, to join in the picnic. Here, again, we remember many an exhibition secretary, who, if there be not hotel or good house of public refreshment hard by, has somehow managed to provide a generous meal, daintily served. We do not suppose any judge wants "fussing" over, or any undue ceremony made, but, as we have said, his office is a voluntary one, and this should be borne in mind.

What is the possible alternative? A judge's fee, remuneration for time and services and expenses. We are by no means sure that the introduction of this as a general principle is desirable. It has been suggested to us more than once. It has been pointed out that more often than not an exhibition makes a profit, and indirectly profits the society, and that a journey to and from a remote town, and the best part of the day spent in judging, may represent two or three whole days' separation from a man's ordinary business or official engagements, which is a clear loss to the man who undertakes the task.

We repeat, this is not a personal matter, the writer's innings as a voluntary judge having been long enough to entitle him to a rest (if not a pension); but the whole question of the relationship between judges and the societies they serve might with advantage be carefully considered by a representative body in conference assembled.—(*Amateur Photographer.*)

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STRIPPING OF ORDINARY GELATINE NEGATIVES BY BATHING WITH ALKALIES AND ACIDS.

BY PROF. A. ALBERT.*

THE loosening of the gelatine film from its glass support can be accomplished with acids or alkalies, but the surest way is by successive bathing in carbonate alkalies and acids, or in reversed rotation. Hereby the film will expand pretty well, if not counteracted by application of alcohol or addition of formalin. A successful operation is by treating the negative first in an alkaline formalin bath and then in an acid bath.

A simple process, by which every expansion or stretching of the gelatine film—negative can be avoided. is to put the plate for 10 minutes in a formalin bath 5:100, then for 10 minutes in a 5 per cent. soda bath, and finally into a bath of 5 parts muriatic acid to 100 parts of water for a few minutes. If the film commences to loosen at the edges, rinse and transfer by means of paper upon a glass plate or a gelatine sheet.

The plate is taken from the bath, a sheet of moistened writing paper is squeegeed on to the same, avoiding air bubbles, and the negative is stripped with the paper. Now squeegee upon the film another sheet of paper, lifted again, and from this second paper the film is transferred to a thinly gelatinized or gummed glass plate or gelatine sheet.

A similar method by means of caustic soda was recommended by Lainer. This method, for the production of thin negative gelatine sheets and reverse of gelatine negatives, consists in the following: If a gelatine film is to be stripped from the glass without the previous use of any stripping gelatine, cut the negative at the edges with a sharp knife and put it for 5 minutes into a solution of 200 cc.m. of water, 10 to 15 cc m. caustic soda solution (1:3) and 4 cc.m. formalin, rinse with water and place into a weak acid bath (300 cc.m. of water, 15 cc.m. muriatic acid, and 15 to 20 cc.m. of glycerine). After the plate has been in the acid bath for about 10 minutes, commence loosening the film at the edges with the fingers and roll off. Now put it in correct position upon the glass plate in the bath, hold the film at the upper two edges and take the glass plate with the film out of the bath, let the liquid drip off, squeegee and stand it upright to dry.

If such a stripped gelatine film is transferred to a glass plate coated with wax-ether solution and then with leather collodion, it can be stripped as a gelatine sheet.

This method is also suitable for the stripping of gelatine films from cracked glass plates.

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* Translated by Henry Dietrich.

CARYING TROWSE

By Chas. F. Grindrod,

THE OLD WITCH. By Frederick Graves.

THE PHYSIOLOGY OF CERTAIN COLORS.

HAVELOCK ELLIS, several months ago, had an article on "The Psychology of Red" in *Popular Science Monthly*, in which he showed that red has an unmistakable effect on the psychical organism. Incidentally, he also demonstrated the fact that color has likewise a physical effect both upon plants and upon animals. He does not, however, discuss the physiological causes for each effect. It is the purpose, therefore, of this brief paper, writes Mr. James Weir, Jr., in *The Scientific American*, to bring out the probable action of color on the basic principles of life as far as we know them. Thousands of years ago it was noticed that plants reared in darkness were colorless and of weak and fragile habit. It was also observed that men who passed their lives in darkness or semi-darkness were not as robust as those who lived in the light of day. So the general conclusion was reached very early in the history of the world that the light of the sun directly influenced both animal and plant life. Recently, it has been determined that the rays of the sun exert dynamic, chemic, and physiologic effects on the *vis vitæ* of plants and animals. The three forces through which the rays of the sun act, viz., the dynamic, the chemic, and the physiologic, are, to a certain extent, intercorrelated; therefore, they must be studied together. It will hardly be necessary to point out the fact that white light or daylight is a combination of all of the primary colors—violet, indigo, blue, green, yellow, orange, and red. It is highly important to my thesis, however, to demonstrate that certain of these colors exert a selective or elective influence on the physiology of animate organisms, and, individually, affect such organisms in some degree. Flammarion's beautiful experiments at the climatological station at Juvisy have shown beyond question of doubt the widely different effects of the red and violet rays on plants. The plants chosen were of the genus Mimosa or "Sensitive Plant," and were subjected to the same environments, with the exception that some were reared beneath dark blue glass and others beneath red glass. In four months the plants grown under the red glass had attained extraordinary development, while those subjected to the violet rays had made no progress whatever. Similar effects were noted in the case of strawberries, and numerous other vines, plants, and shrubs. The plants grown beneath blue glass did not die, but seemed to remain in a dormant condition without growth or further development.

Zacharawietz, of Vaucluse, has also shown that plants are strongly affected along the lines of rapid growth and development by red and orange rays. As early as 1883 I demonstrated and published the fact that typhoid fever germs would not live when subjected to the blue or violet rays. Ward, Finsen, Berghold and others have shown that the blue, violet, and ultra-violet rays are fatal to bacteria, and that the other colors are not, while Finsen has made successful use of this knowledge in the treatment of zymotic skin diseases, such as smallpox, measles and scarlatina. It would appear from these observations that the red and orange rays have a distinctly favorable physiological action on plants, while the blue, violet, and ultra-violet rays are as distinctly deleterious. When we come to observe the action of the violet rays on animal life, we see that such action is, apparently, markedly different from that to be observed in vegetable life. But, as Davenport has pointed out, this difference is more apparent than real; for these effects on animal and plant physiology are due to the same chemical metabolic changes, but, "while plants succumb to the influence of the violet rays, animals, being more highly organized, are able to take advantage of them and flourish." In 1883, while studying tinctumutation or the color-changing function in certain animals, I reared a large number of newts, or salamanders, from the eggs. The eggs were plated in shallow vessels which were covered by colored glasses—blue, orange, green, and red.

The eggs under the blue glass hatched out first; under the orange, second; under the red third, and under the green last of all. The young larvæ under the red glass were much more active, at first, than those under the other glasses, and attained full maturity several days earlier. The larvæ under the blue glass, however, grew to be much larger, and in the end were much stronger and more agile. Under the green glass the larvæ were sluggish and of slow growth. I noticed, moreover, that whereas there were no monstrosities or deformed animals under any of the other glasses, there were many under the green and the orange glasses. The animals under the blue glass were distinctly darker than those under the other glasses, and, under the microscope, the chromotophores, or color-bearing cells, were seen to be much more numerous.

The violet and ultra-violet rays have a pronounced chemical as well as a physical effect on the human body. They have, also, in all probability, a dynamic effect, which is shown by the feeling of well-being or otherwise. The "summer-girl" who, in the early days of her vacation, cannot stand the sun, will, in the middle of summer, welcome the embraces of Phœbus Apollo and will revel in his kisses! She says that she has become accustomed to the rays of the sun and that she no longer feels them because it has become her "habit to walk abroad without hat, parasol, or umbrella." Thus she gives credit to the wrong agent; for her feeling of well-being is not due to habit, but to the thin brown veil of tan which the violet rays with ever busy brush have spread out on the surface of her body wherever it has been exposed to them. The violet rays thus erect a barrier against themselves, for they cannot pass the tan. Nature always takes care of her children, that is, if they will give her time, and do not in their ignorance attempt to hasten her. It is true that, primarily, the violet rays are superficial in their effect; yet they are, nevertheless, sometimes destructive in a high degree. Ask the boy who awakes in the night after an afternoon in the river, and "moans, and moans, and moans" on account of the intolerable fire between his shoulder blades, what he thinks of the ultra-violet rays; or ask the blind and helpless traveler who stumbles across the weary waste of Arctic snows what he thinks of them? Both sun-burn and snow-blindness are due to the violet and ultra-violet rays. Yet the violet rays are absolutely necessary in the up-building of the normal, healthy man. Their action must be, I take it, primarily through stimulation of the vaso motor nerves, *i.e.*, the nerves which control blood-vessel action. The first effect is dynamic in character; there is dilatation of the blood vessels with a consequent increased flow of blood. The second effect is chemical in nature, the increased flow of blood incites the blood-producing organs to manufacture new blood cells, consequently the plasma of these cells differ chemically from the plasma of the old cells. There is also increased oxidation and oxygenation due to increased flow of blood through the lungs. The third effect is purely physiological. Owing to the increased flow of new blood cells to the tissues, cell growth is excited and new tissue is formed. Of course, waste is going on all the time; the violet rays merely act as a tonic in stimulating the organs of the animal economy towards repairment of waste by renewing and building up tissue. The beneficial rays are present in diffused daylight, hence the direct rays of the sun are not absolutely necessary in order to produce their good effects on the animal organism. Direct sunlight is, however, an exceedingly efficacious tonic when used moderately and understandingly; there can be intemperance, however, in the use of every good that Nature has given us. — *British Journal.*

COMPARATIVE INVESTIGATION METHOD FOR THE ACTION OF DIFFERENT DEVELOPERS IN THE WET AND DRY PROCESS.

BY DR. F. STOLZE.*

WHOEVER has worked under various conditions knows, that according to circumstances developers will require a modification, be it that by application of the same developer substance different formulas are employed or different concentration is used, be it that also the developer substance is changed. Actual comparative investigations of a larger extent are very seldom made by the professional, and he generally relies on the formula accompanying the developer substance. He cannot be blamed for this, because he has no time for such tedious studies; and still it would be very desirable if everybody could investigate for himself in a simple way, and without much expense. For more than thirty years I have applied for this purpose a process which proved to be excellent for wet plates, allowing with an exposure upon one single plate of 13 x 21 cm. to test simultaneously ten different developers, of which 5 c.cm. each was about all that was used. I have applied the same process afterwards for bromide of silver gelatine plates, and, with some changes I had to make, found it just as suitable.

1. *Wet (collodion) process:* If a number of different pictures are to be made upon a single plate for comparison, the first condition is, that a large, the same method repeating picture is photographically produced in such a manner, that the light intensity on the edges does not remain too much behind that of the center. For a plate of 13 x 21 cm., and an objective of 27 cm. focal distance, a studio carpet of at least three yards width, which is suspended vertically in uniform light, is the most suitable object, provided, that it is of a good pattern and bright (light brown) color. To divide the picture into ten different zones, eleven strips of glass, 4 mm. wide and 13 cm. long, are used. They are laid across the exposed collodion plate, so that ten grooves of about 16 mm. width form between them, the strips adhering very tightly to the film, covered with a silver bath. To be able to develop simultaneously within the same grooves, ten beaker glasses are required, which are fastened to a wooden strip in such a way, that their middle axis is exactly distant 2 cm. from each other, and the upper parts, which touch one another, lay in one and the same plane. 5 c.cm. developer is poured into each beaker glass, and the development can be commenced with. The thing is so simple and easy, that generally the first trial is already successful. The beaker glasses are tipped sufficiently, until the edge of each

A SWISS STREET. By S. Conway.

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[*] Translated by Henry Dietrich.

touches the glass strips, forming a groove. The plate is held a little oblique in the opposite way, and with a quick movement all the ten developers are poured into the grooves. As soon as they commence to run off on the opposit side the plate is tipped back again, and thus the developers are kept in motion upon the film. As soon as a proper covering of the film has been reached, water is poured over the same with a rapid movement. It does no harm if the glass strips come a little out of place, or even float off. The developers, thus diluted, do not act any more, and the parts covered by the glass strips remain perfectly clear. To place the glass strips at proper distances upon the collodion film, stencil marks may be made on the outside. When a combination negative has now been obtained in this way, it is quite surprising how the difference in the action of each developer is observable. It can be seen at a glance, whether canesugar, grape sugar, sugar of milk, gum arabic, dextrine, glycerine, glycocol or gelatine is added to an ordinary iron developer. Cane sugar gives the most brilliant negatives with the clearest depths, sugar of milk the softest. Cane sugar is, therefore, most suitable for line drawings, sugar of milk for good half-tones. This alone proves how important such investigations are, particularly for reproduction establishments. With regard to the manner of investigation it must be mentioned yet, if a substance has proven in the above described manner to be particularly suitable, it should now be determined if its action remains durable, or if it has to be freshly prepared for each use. It should also be investigated, what quantity is of most advantage. Cane sugar, for instance, is of best action, when fresh.

2. *Bromide of silver gelatine process:* In the bromide of silver gelatine process the method has to be modified a little. As the development requires a longer time for action, the simple pouring of the developer on the plate is not sufficient. To prevent the glass strips from solidly adhering to the plate, they are surrounded with a wax edge; paraffin is also suitable. The strips must be at least 4 mm. high. The whole system is now pressed on to the exposed plate, all compartments are filled with water, and examined with a brush for air bubbles. The water is then removed, and the developers are poured in from the beaker glasses. The rest is the same as with the wet process.

Child Study. By Esser.

ABOUT TELESTEREOSCOPIC VIEWS.

BY A. VON HÜBL.*

A LANDSCAPE, looked at from a certain standpoint, has to our eye, within a distance of about 900 feet, a plastic appearance, while all objects further off seem to be of equal distance. This depth of the stereoscopic field, therefore the boundary, at which the plastic observations terminates, is given by the distance between our two eyes, which is from 6 to 7 cm. Supposing now, the distance between our eyes was enlarged, then the depth of the stereoscopic field would increase proportionately, and at a distance between both eyes, from 60 to 70 cm., all objects to a distance of 9000 feet would have a plastic appearance. Such a displacement of our eyes is not within our possibility, but we can learn the effect obtained thereby, by looking stereoscopically at two photographic pictures, taken from two points corresponding with the presumed eye distance. Such pictures are designated as telestereoscopic views.

While the ordinary stereoscopic picture corresponds with the natural aspect of nature, because the mutual distance of both objectives is equal to the distance between the eyes, the telestereoscopic picture will make quite a peculiar impression. On account of the far reaching plastics, we see distant objects not any more alongside of each other, but at different distances. The nearer-by hillsides separate from the chain of mountains behind them, details appear in the valley and the whole landscape is spread clear before our eyes.

Nature we can never see in this way, a deep look into these roomy conditions admits only the observations of a plastic model, and we are not capable, to free us from the idea, that we have such a one before us. We just see the landscape, as if the distance between our eyes was several yards and estimate involuntarily with this personal greatness the dimensions of the objects surrounding us.

For this reason all objects, when such views are looked at through the stereoscope, make an impression of smallness; life size statues become statuettes, the houses remind us of toy boxes, and the immense rock formations of the mountains appear almost as artificially formed models to our eyes.

SIXTY MILES AN HOUR. By C. S. Hale.

To produce such telestereoscopic pictures, any ordinary camera will do. Take two ordinary single views from two points of a suitably selected distance and join them eventually after proper reduction to a stereoscopic picture. The distance between both standpoints must correspond with the distance of the object to be taken and the intended effect, and should, when buildings are taken, be short, at most 3 to 6 feet, while at distant views 150 feet and more are admissible. The nearer by situated foreground should not appear in the picture.

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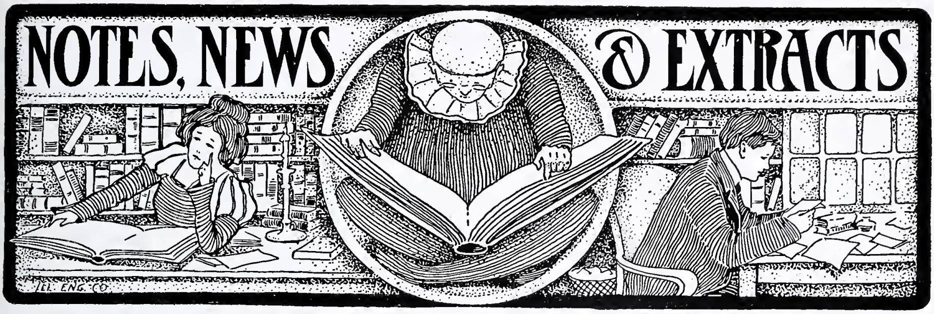
* Translated by Henry Dietrich.



NOTES, NEWS & EXTRACTS

The negatives, photographic designs, and other background and accessory assets of the late Lafayette W. Seavey, background artist, were sold at public auction, March 9th last, at the late Mr. Seavey's studio in Walton Ave. and Cheever Place, New York, N. Y. The bidding was spirited and the whole lot bought in jointly by Messrs. Rough & Caldwell, New York, and Packard Bros., Boston, Mass. These two well-known firms dividing the same equally, thus owning the entire "Seavey" accummulation of designs, photographs, and negatives, the result of 35 years work.

To put clouds into enlarged negatives puzzles many. This is how Mr. Riley does it, as described by him to the Coventry Photographic Club on the 8th inst. He first enlarges the ordinary negative with the proper exposure (ascertained by trial), then roughly cuts out the profile of the landscape on brown paper, and with this covers up all the lower landscape part of the enlargement. He then puts the cloud negative in the place of the ordinary negative, and exposes it for a brief period, at the same time moving the brown paper mask up and down in the neighborhood of the profile of the landscape; this prevents any sharp line of demarcation between cloud and landscape.

Blue Focussing Screen.—"Amateurs are often recommended," says a correspondent in the *Amateur Photographer*, "to carry a pair of blue spectacles so that they may view what they propose to photograph in Monochrome." A better plan, however, is to have a blue focussing screen, which can be made from an ordinary dry plate as follows: Strike a wax match in the dark-room, and hold it for about one minute a foot or two away from the plate. Then proceed to develop the fogged plate, using a slow acting developer such as hydroquinone. Develop until the plate is of a grayish color tint, fix and wash in the usual manner. Then bleach with

Mercuric chloride	10 grs.
Ammonium chloride	10 grs.
Water	1 oz.

Wash again thoroughly and soak the bleached plate in a solution of powdered blue, taking care not to carry this operation too far, or the screen will be too dark in color.

A School Grievance.—The Deadwood (S.D.) *Pioneer Times* has discovered a lady who has a serious grievance against the public school system as it operates in that place. She has written to one of the teachers the following pathetic appeal:

"Miss: Will you in the future give my son easier soms to do at nites? This is what he's brought hoam two or three back. If fore gallon of bere will fill thirty to pint bottles, how many pints and half bottles will nine gallons of bere fill? Well, we tried and could make nothing of it at all, and my boy cried and laughed and sed he didn't dare to go back and buy a nine gallin keg of bere, which I could ill afford to do, and then he went and borrowed a lot of wine and brandy bottles. We fill them, and my boy put the number down for an answer. I don't know whether it is right or not, as we spilt some while doing it.

"P. S.—Please let the next some be in water, as I am not able to buy more bere."—*Chicago Record-Herald.*

Bausch & Lomb Optical Company, Rochester, N. Y., advise us that there seems to be some misunderstanding among those who would like to enter their Three Thousand Dollar Quarter Century Photographic Competition, with regard to the basis of judging, as to whether the awards will be made to those whose work corresponds with their own particular ideas of photographic excellence, or with those laid down in the basis of judging adopted at the time of issuing the original offer, and which are embodied in a booklet, which can be had by anyone desiring to enter the competition, on request. Bausch & Lomb Optical Company wish to state that as this Competition is one intended to demonstrate the photographic possibilities of high-grade lenses, it was thought best to adopt at the outset a basis of judging which would give the competitors not only an idea of what was aimed at in establishing the Competition, but the basis upon which prints should be judged ; and this basis will be strictly adhered to by the judges in making their awards.

Those who photograph geological specimens in position so often fail to give even a faint idea of the size of the specimen shown that one is reminded of the old story of the confused witness who, after many efforts to estimate the size of the missile thrown by the prisoner, at last triumphantly said "it was about as large as a lump of chalk." Only a few days ago I was shown a photograph of the top surface of the Giant's Causeway—an excellent photograph technically, and one which admirably showed the breaking up of the basalt, but it did not afford the least indication as to size. The ordinary military standard is a standing man, but to introduce this standard into geological photographs would often be impracticable, sometimes impossible. A walking-stick or umbrella has been suggested. Somewhat incongruous, may be replied. A geological hammer? Certainly better, but when the geologist takes his camera for definite work he may not care to also carry a hammer. A characteristic specimen of some well known plant, placed unobstrusively near the specimen, is perhaps best of all, but failing this the photographer may fall back on a glove, a pocket-book and pencil, or a hat. In short, there is no excuse for taking a geological photograph without including something which may give an approximate idea of the scale.

Ponto Quotes Scripture.—After dinner Mr. Burton went around to the rear of the house, where Ponto was, and said:

"Ponto, do you go to Sunday-school?

"Yes, 'Fessor, I does; I's converted now," said Ponto with a pious air.

"Can you recite Scripture?"

"Yes, sah, heaps of it. Heard some dis mawnin'."

"What was it?"

"No man can come to me 'cept de Fader make his pictuah."

"What?" demanded the astonished and bewildered minister. "Was this the revised version, revised and revised again?"

"Dat's in de Bible—heard Missy Raymond read him dis mawnin'," stoutly maintained Ponto.

"Do you mean 'No man can come to me except the Father draw him'?" asked the minister after a moment's thought, light breaking in on his own mind.

"Yes, dat's it; 'cept de Fader draw him—make his pictuah," said Ponto. "Jess like Miss Vargy make yo's one day when you come to see her; she draw yo'."—*The Household* for February.

The Chopped Profile, or How to Make a Salon Picture.—To the artistic amateur, who may be ambitious of producing something worthy of exhibition at "The Salon," and who has felt indignant at the severities and restrictions of the laws of harmony and composition, we commend the following recipe, the result of a very careful analysis of one of the photograms of last year.

Take a half length portrait of a person, exactly in profile—it may be either girl or boy, so long as the pose is as straight and stiff as possible—raise one hand, and let it hold some ugly, evil-smelling flower, with an odor strong enough to make the sitter close the eyes and pout the lips in disgust; drape the figure in a sheet, tablecloth, or anything handy; leave face and figure in a grey shadow against a grey ground—without any light to relieve its monotony.

Over expose and develop a very weak negative—then print in any medium—the weaker and flatter the better—then trim as follows:

Bisect the figure exactly behind the ear and through the middle of the neck; cut off the top of the head, so as to leave one-quarter of the hair showing; mount it on any coarse paper (an old sugar-bag will do admirably) and frame it in any rough timber that may be handy. Send this as an exhibit to the Salon and it will be recognized at once as a work of art and genius, and find a place among the art treasures of the season.—*New Zealand Photographer.*

The Third International Exhibition of the Society L'Effort will be held in the Galleries of the "Société Royale de la Grande Harmonie," rue de la Madeleine, Brussels. It will include the works of foreign artists as well as those of members of the Society. The Exhibition will open on June 20th, and close on July 5th.

Only works of an artistic character will be accepted.

Each work presented must be separately framed, and have on its back its title and the name of the artist.

The number of proofs which may be submitted is not limited.

No picture may be withdrawn before the close of the Exhibition.

The pictures will be hung gratis ; the bringing and taking away will be at the expense of the exhibitors.

Applications for admission must be addressed to the Committee, 39, Rue des Ursulines, before the 15th of May.

Pictures must be sent postpaid to Théo Van Ishoven, 1, Quai du Commerce, Brussels, at the latest for June 6th, (utmost limit).

Each exhibitor of at least two works will receive a plaque engraved with his name, a recent work of the statuary de Rudder.

Cases must bear the Christian names, surnames and address of the exhibitor.

Works will be sent back within the fortnight following the close of the exhibition.

The committee will, on request, forward to the exhibitors the criticisms on the exhibition.

Exhibitors wishing to sell their works—one copy only—must indicate the price on the back. The Society L'Effort will reserve 15 per ent. on each work sold.

The Prosch Manufacturing Company announces its removal on May 1st from 389 Broome street to new and larger quarters at 145 to 151 West 18th street, New York City. This company has been located at the old address throughout the past seventeen years, and during that time it has placed on the market several of the most successful photographic shutters and magnesium flash lamps ever offered to photographers. These include the original Prosch shutter, the "Duplex," and the later models, the "Triplex," "Athlete," "Triplex-Stereoscopic," "Athlete-Triplex," and the new "Diaplane" shutters, as well as the "Lightning," "Professional" and the new "Proschlite" Storage Flash Lamps. These products will now be manufactured on a much larger scale. With its greatly increased capacity additional modern machinery, and ample space, it will be able to fill orders much more promptly than in the past.

The newest Prosch shutter is the "Diaplane," which is made in two styles called "Diaplane I" for amateurs, and "Diaplane II" for professionals and advanced amateurs. The "Diaplane I" has a range of speed from time and bulb, and slow instantaneous exposures to 1/200th of a second, and ranges in price from $17.00 for No. 1 size to $22.00 for the No. 6. This is the best shutter ever offered to the amateur. The "Diaplane II" has an extremely wide range of speed, its maximum being 1/600th of a second, actual time. This is the best and most widely serviceable shutter ever offered to the professional. Send to The Prosch Manufacturing Company, 149 West 18th street, New York City, for the new "Diaplane" Shutter catalogue.

At a Meeting of the Daguerre Camera Club held on Sunday evening, March 28th, at the Young Men's Hebrew Association Building, in the city of New York, Mr. Maximilian Toch gave a demonstration of gas light papers and their progress. After showing various methods of printing, developing and toning and the avoidance of difficulties he showed the best of these papers, Cyko. While it is supposed that the emulsion on gas light papers is a slow bromide of silver, the fact is that this emulsion is purely a chloride. The inventor was Dr. Leo Baekeland, former Professor of Chemistry in the University of Ghent, whose researches on photo chemistry are well known. This estimable gentleman received the gold medal and the Laurel Branch from the King of Belgium for his unique work on the dissociation of nitrate of lead.

Mr. Toch said in part: "The paper I am demonstrating here to-night is Cyko, which, to my mind, has some advantages over Velox because it has a greater latitude of exposure, and is more easily manipulated. A great feature that I wish to call your attention to is the fact that if you use three dishes in your developing, one for the developer, one for the hypo, and the middle one containing a weak solution of acetic acid, you will save many prints and much time and avoid a lot of trouble.

"I show you here a print which I am developing, and as soon as it is finished I plunge it in dish No. 2, containing the acetic acid. It not only clears the print and stops development, but you need pay no further attention to it, such as given in the directions by manufacturers, except to immerse in the hypo bath the usual time and wash thoroughly."

Enlarged Negatives.—The majority of amteurs now-a-days rarely take anything but small camera's into the field, relying on making enlargements from the negatives at some future time, which is sometimes done, but more often not. In most instances, if an enlargement is made by the amateur himself, it is on bromide paper, as rarely can he obtain, even from the same negative, half a dozen or less results of equal merit. It has always been a matter of surprise to us that amateurs, and some professionals for that matter, so much neglect this method of working. When once an enlarged negative is made, it may be used for printing by any process, and one can get prints in any color and on any surface paper. Furthermore, the negative, when obtained, can be retouched or "faked" to any extent, which the amateur can do for himself. The neglect of this method of making enlargements is the more surprising, seeing that no more trouble is involved in making the enlarged negative than there is in making an enlargement on bromide paper, beyond making a transparency. If the enlarged negative is made on paper, and there are now some negative papers on the market that are practically free from grain, the cost is little more than that of bromide paper. When these papers are employed the negative may be used for carbon printing by the single transfer method, the simplest of all processes for amateurs to employ, and one that particularly lends itself to any amount of modification or "faking," in the development. Such negatives can, of course, be used equally as well for the platinotype processes, or for printing on P. O. P., or any other paper. Therefore, it does seem strange that this method of producing enlargements is so much neglected.

Photography through Water.—We hear from time to time, of adventurous individuals who take cameras with them on submarine excursions, and who tell of the wonderful things they have accomplished. For some reason or other these subaqueous pictures never get published; they are only talked about. Mr. Martin Duncan, who lectured at the Camera Club last week, on "A Naturalist's Rambles on the Seashore," was not content with talking of what he had done in the way of photographing living fishes and other denizens of the deep, but he showed what excellent work he had actually accomplished. It is true that he does not go down into the depths with his camera; he finds it more convenient to bring the fishes to terra firma, and to photograph them in a tank, or marine aquarium. This tank is made especially for the purpose, with a large pane of patent plate-glass in its front, free from spot or flaw. The sides are also of glass, but the back is of slate. In addition to this permanent back, Mr. Duncan has others covered with rockwork, seaweed, shells, etc., to help him in his picture-making, a series of solidly built backgrounds in fact, any one of which he can introduce into the tank at will. The inmates make a terrible fuss whenever their abode is invaded by one of these rocky backs, but they gradually settle down again, and as soon as this is the case their ingenious proprietor commences to move the sheet of rockwork nearer and nearer to the front glass of the tank, until the space between it and the glass is reduced to a few inches. Once more the creatures in the tank are allowed to get accustomed to the circumscribed space, and then Mr. Duncan, waiting until the best pose is assumed by his unconscious "sitters," takes the photograph. All the work is done in the open air. Artificial illumination of different kinds has been tried, but it is found that the effects secured are not half as good as those afforded by daylight exposures. Moreover, the inhabitants of the tank are strongly opposed to any kind of illumination except that which nature provides, and manifest their displeasure by sundry movements which do not conduce to good photography. Perhaps the most effective of Mr. Duncan's pictures is one in which an octopus has seized a star-fish, preparatory to making a meal of him. The star-fish, in this case, is of the brittle variety, and one of his legs, or rays, has broken off in his struggles to get free from the awful embrace of the cephalopod.—*British Journal.*

"Help! Help!"—It is an established fact thnt every movement having for its object the elevation and betterment of the people, either as a class, or in general, is conceived, organized and fostered by a few enthusiastic individuals, whose enthusiasm is born of an intense realization of present needs.

In every instance these individuals are the thinking people, and I would urgently ask those members of the Photographic fraternity, who do not recognize in the Conventions of the Photographic Association of America, a need to the craft as a means of giving to its every member all incalculable assistance otherwise unobtainable, to stop with me for a moment and "*think*."

Art, science, literature, and in fact all mental achievements are evolutionary, each generation adding to the structures builded by its predecessors. Were this not true—were each individual student compelled to start at the beginning and wrestle alone with first principles, the end of a long life's work would make but little progress.

This, my fellow craftsmen, to a limited degree is your situation, for no man is capable of evolving within a goodly lifetime scarce a fractional part of the remarkable phases of pictorial photography that will be shown in the superb exhibit of work at our next Convention, which, with the presentation of important, pertinent subjects by able and entertaining authorities, and a brilliant interchange of ideas, are the part of wide awake, ambitious students of the Art, would give you food for thought, a fund of information and a surcharge of enthusiasm that would last you through the year, the effect of which, on your business, could not be else than most salutary, for were you to show me a man interested in his business to the point of real enthusiasm, it would almost certainly, be one who was making it a financial success, for enthusiasm and success usually go together.

I have made no mention of the entertainment side of the trip; aside from the pleasures of the Convention proper, I would briefly add that this feature of the affair will be in the hands of those who are princes at entertaining, and you will have an abundant chance to enjoy keenly every moment of the time.

I, therefore, appeal to you in the name of the craft, to come to our aid, and "help" us in our commendable efforts to elevate the Photographic Art of America, and to better the condition of the Photographic Fraternity, promising you that by thus "helping" us none will be more greatly "helped" than yourself.

Yours for Fun and Other Things,
J. E. GIFFIN,
Second Vice-Pres. P. A. of A.

What to Photograph in London.—Mr. R. W. Paul, the well-known manufacturer and dealer in scientific and photographic apparatus, London, has arranged the following useful list of places photographed in London. For the convenience of visitors it is arranged in six groups, each group representing a day's work or more, according to the zeal of the amateur. Interiors have been omitted, architectural photography requiring more time than is usually at the disposal of the visitor; but further information for those wishing to take churches, palaces, etc., will be afforded on inquiry of Mr. R. W. Paul. Permits to photograph in the London Parks may be obtained from the Office of Works, Whitehall.

Charing Cross 'bus eastward; Group A, W. to E.—Temple Bar Memorial; Temple Church (opposite Chancery Lane); Oliver Goldsmith's tomb (opposite Temple Church); St. Paul's Cathedral (west front); Cheapside with traffic; the Guildhall (King street, Cheapside); the Mansion House; the Bank of England; the Royal Exchange; the Rowland Hill statue, in rear of Royal Exchange.

'Bus from Royal Exchange to London Bridge—The Monument; London Bridge with traffic; Tower Bridge; Tower of London; Custom House.

'Bus from London Bridge to Bunhill Fields—Tombs of Defoe, Dr. Watts, Wesley, Bunyan.

Tram from Old street for Clerkenwell road—The Charter House; St. John's Gate, Clerkenwell; Newgate Prison; Christ's Hospital, Newgate street; Old Houses, Holborn (opposite Grays Inn Road), facing N. (4-5 P. M, long days).

Group B, W. to N. W.—Dickens' Old Curiosity Shop, S. W. of Lincoln's Inn Fields; Covent Garden Market; Shakespeare's Statue, Leicester Square; Royal Academy, Piccadilly; Marlborough House, the War Office, St. James's Palace (Pall Mall); Bond Street (in the season); Piccadilly Circus (in the season).

Royal Blue 'Bus from Piccadilly Circus to Portland Road Station.—For Regent's Park and Zoological Gardens; or Yellow 'Bus to Hampstead Heath.

Group C, S. W.—Westminster; Beaconsfield Statue; Victoria Tower; Houses of Parliament; Cromwell Statue; Richard Cœur de Lion Statue; Westminster Abbey, W. front; the Horse Guards (Parliament Street): the Horse Guards changing guards, 11 A. M.; Charing Cross, Crimean Memorial; Trafalgar Square, Gordon Statue; Nelson Monument; Landseer's Lions; National Gallery from N.; Panorama from front of National Gallery; St. James's Palace; Buckingham Palace.

Group D, river trip; Temple Pier to Kew or Hampton Court. The following can be snapped at *en route:*—Cleopatra's Needle; Hotel Cecil, north side; Savoy Hotel, north side; the National Liberal Club, north side; the Houses of Parliament, north side; St. Thomas's Hospital, south side; Lambeth Palace, south side; Tate Gallery; north side.

Alight at Albert Bridge Pier for Chelsea.—Carlyle's House; Chelsea Reach (painted by Turner); Kew Bridge; Hampton Court.

Group E, N. W.—Mrs. Siddon's Statue, Paddington Green; Robert Stephenson's Statue, Euston Square; Tomb of Tom Hood, Kensal Green; Hampstead Heath; the Zoological Gardens, Regent's Park (permits required); Caledonian Cattle Market, on Fridays only—well worth a visit for genre purposes.

Group F, W. to E.—River trip.—Charing Cross to Greenwich.—Old Waterloo Gate; Somerset House, north side; Waterloo Bridge, north side; Temple Gardens, north side; Blackfriars Bridge, north side; London Bridge; the Tower of London; Woolwich; Greenwich; the Royal Observatory at summit of hill (from whence fine panoramic pictures can be obtained).

CORRESPONDENCE

NOTE.—We shall be pleased to publish letters on subjects of interest, but do not hold ourselves responsible for the opinions of correspondents.

ST. LOUIS, April 9, 1903.

Editor of THE PHOTOGRAPHIC TIMES-BULLETIN:

My Dear Sir: In the first number of *Camera Work*, page 37, is a comment on "Pictorial Photography; The St. Louis Exhibition," over the signature Editor (Alfred Stieglitz). In part this comment reads:—"Pictorial Photography having at last won recognition in recent European Art Exhibitions, the managers of the St. Louis Exhibition have awakened to the fact that they could no longer ignore its claims; although, *until Mr. Caffin, the art critic and editor of the American Section of the International Studio, took up the cudgels for the cause, the authorities in St. Louis seemed bent upon following the old narrow path.* Nor were they entirely unjustified in their conservatism in view of . . . *the more than extravagant demands made by Mr. Julius C. Strauss . . . who presumed to act as spokesman for the photographic pictorialists* . . . but his (Strauss') connection with the modern pictorial movement *has hardly been such as to have given him the knowledge and experience necessary to impress the authorities with the history and consequent rights of photography as a fine art.*"

I have *italicized* the portions of this comment to which I take exception. My reason for challenging the statements are:—(1st) The St. Louis Exhibition Authorities had decided upon allowing a Salon Exhibit in the Fine Arts Palace before Mr. Caffin's article in the *International Studio* appeared; (2nd) I did not *presume* to speak for "Photographic Pictorialists" or any other kind of camera workers—but *was one of a committee delegated* to secure recognition for photography as an art, from Our World's Fair officials; (3rd) That the demands made by our committee designated by Mr. Stieglitz as "*more than extravagant*" were not so considered by the Exposition authorities, nor so regarded by the photographic organizations of the World.

(4th.) That the reflections upon my personal "*connection with the modern pictorial movement, etc.*," were intended not only as a very severe blow at me, but at all professional and nearly all amateur photographers.

And (5th) that the Camera Club of New York City, of which Mr. Alfred Stieglitz was at that time a prominent member and leading spirit, favored all the demands made by the Committee of which I was chairman.

I wrote Mr. Stieglitz a letter covering these points. His reply in the current number of *Camera Works*, of page 51, begs the question by saying that in his previous editorial comment, he referred only to "photographic *pictorialists*" (the italics are his) and calls attention to the "distinction between such, and photographers generally." In other words, the display at the St. Louis Universal Exposition, it seems, according to Messrs. Caffin and Stieglitz, should be confined to the work of "photographic *pictorialists*" and they themselves should be the judges to decide which of their own productions should be displayed.

If you, Mr. Editor, feel that the professional and amateur photographers of the world, not included in Mr. Stieglitz's roster of "pictorialists," have any claims upon the attention of the public, it would be well for your journal to take up the cudgel in their behalf.

In order that you may judge of the merits or demerits of my letter to Mr. Stieglitz, I enclose a copy of same.

Very cordially yours,

J. C. STRAUSS.

Editor of THE PHOTOGRAPHIC TIMES-BULLETIN.

Sir:—I thank you for your consideration in submitting to me the circular letter of Mr. J. C. Strauss, of St. Louis, addressed to the photographic press generally, in which he seems to take exception to those editorial comments, appearing in Nos. 1 and 2 of *Camera Work*, anent the St. Louis Exposition and the important role that Mr. Strauss has played in connection therewith. Were it not for the misleading conclusions that this gentleman has arrived at by some illogical process of reasoning, I should hardly dare to ask you to waste your valuable space in publishing a reply to this letter. As it is I shall try to be somewhat more considerate of your printer's bill than was Mr. Strauss, of St. Louis, of *Camera Work*, when he requested leave to print "a seven-page type-written letter" in reply to our short and innocent editorial which seems to have touched him most unpleasantly.

In regard to his first exception: I do not and did not deny his assertion contained therein, as a reading of the offending article will show. His second: If Mr. Straus, of St. Louis, "did not presume to speak for photographic pictorialists or any other kind of camera workers," he admits our denial of his representative character. His third: The "more than extravagant nature of his demands" is proven by the refusal of the exhibition authorities to erect a special building for fine art photography as originally demanded by him. His fourth: We intended no reflection upon the personal connection (of Mr. Strauss, of St. Louis) with the "modern pictorial movement," nor to aim "a severe blow at him," as I fully appreciate the high professional standing and ability amongst his colleagues of Mr. Strauss, of St. Louis, though I admit I cannot conceive how such a blow at him (if it had been intended) could in any way affect "all professional and nearly all amateur photographers." His fifth: I was not officially connected with the Camera Club, of New York, at the time mentioned, even though I was the editor and sole manager of its organ, *Camera Notes*. The fact that the organ and the club were not in sympathy on questions of pictorial photography seems never to have reached St. Louis, and the implication that I was in favor of the demands of Mr. Strauss, of St. Louis, is not warranted by the facts. For the sake of record it is well to note that I, as editor of *Camera Notes*, was the recipient, about two years ago, of one of his first circular letters, asking for my cooperation and support, which I was unkind enough to forget until now, not realizing that Mr. Strauss, of St. Louis, the celebrated professional photographer was really in sympathy with photography as means of art expression, as we seem to misunderstand that phase. If the management of the club encouraged Mr. Strauss in his compaign, neither I nor my fellow members were informed of the fact.

Granting all that Mr. Strauss of St. Louis now claims—that he was acting for the New Zealand Camera Club, the American Institute, and a few other photographic organizations of a similar activity and prestige in the pictorial world of to-day—it still occurs to the immodest selves of Mr. Caffin and me that the Linked Ring, the Vienna Camera Club, the Hamburg Society, the Photo-Club de Paris, the Photo-Secession, the Philadelphia Society, and such bodies, as well as individuals like Steichen, Käsebier, White, Byer, Eugene, Keiley, Schütze, Willard, Post, Day, Devens, Coburn, Eickemeyer, Weil, Troth, Ben Yusuf, Adamson, Bullock, Redfield, Stirling, Stambery, Maurer, Sears, Wiggins, Calot, Russell, Lee, Rose Clark, Johnston, and the host of other American workers who have been so prominent in all pictorial photographic exhibitions of standing throughout the world, and who, from my uninformed and one-sided standpoint, are the main cause of American pictorial photographic pre-eminence, had not delegated Mr. Strauss of St. Louis to speak either for them or the cause they represent.

Of course, Mr. Editor, the New Zealand Camera Club and the American Institute may be more important factors in the estimation of Mr. Strauss of St. Louis than the organizations and individuals that I have mentioned; if this is so, I am willing to place myself on record as preferring to rank with and labor for this insignificant minority.

Thanking you for your indulgence, and wishing all success to Mr. Strauss in his efforts in behalf of his city, I must now insist on regarding the incident as closed.

Yours very truly,

ALFRED STIEGLITZ.

REVIEW OF BOOKS, ETC. Received

La Photographie an Charbon (Carbon Photography), by Paul Darby, and also published by Gauthier-Villars.

This work gives a short synopsis of the principal manipulations of the Carbon Process. It is in the French language. Price, 1 franc.

Comment on Obtient une Cliche Photographique (how a photographic negative is obtained), by Marcel Molinié, and published by Gauthier-Villars, Paris.

This interesting booklet, written in the French language, is particularly intended for the instruction of amateurs. Special attention is given to the chemicals and their composition. The price is 2 francs.

The Studio for March is an unusually interesting number, containing illustrated articles on Frederic Houbron, Auguste Rodin's Dry Point Engravings, The Decorative Artists of Nancy, by Henri Frantz, and a clever article on "Some Modern Weather Vanes," by O. Maxwell Ayrton.

The various color plates and other reproductions reflect great credit upon the publisher, Charles Holme, London, England.

The April number of *Camera Craft* is an Industrial Number and is of more than unusual interest. It contains a complete and critical article on all of the new cameras and photographic apparatus to be marketed during the coming season, several interesting articles on the manufacture of various important photographic instruments, a series of portraits of the leading manufacturers, and page after page of valuable information for the amateur, the professional and the dealer.

The usual features of the Magazine are not neglected and although the size of the issue has been greatly increased, the price remains the same, fifteen cents a copy.

Deutscher Photographen-Kalendar, for 1903, by K. Schwier.

This little volume, of 450 pages, contains the names of the Photographic societies, and the names and addresses of the members of each society. a list of the members of the association of the manufacturers of and dealers in photographic supplies.

The names of the principal camera clubs in the world, outside of Germany and Austria, classified as to countries.

A list of the schools in Germany in which photography is a part of the curriculum, and a short description of the courses, tuition, etc., in each school.

A list of the photographic periodicals published in the world, classified as to the language and country in which they are published.

The latter part of the book contains a list of the business houses engaged in photographic work in Germany and Austria.

This is a most valuable little book for camera clubs and publishers. Price, 2 marks.

Curiosity. By Louis Meldon.

TRADE NOTES

CARTRIDGE ROLL FILMS.

In order to prevent any misunderstanding as to the recent decision in England regarding the trade-mark controversy between the Kodak Company and certain English dealers who were selling cartridge roll films not made by the Kodak Company, we append the following notice issued by the Photographic Trade Association, of London, which sets the matter clearly before the public.

It should be borne in mind that the dealers, against whom suit was brought by the Kodak Company, sold films that were not made by the Kodak Company, to customers who called and asked for Eastman or Kodak films, and did not acquaint such customers with the fact that the films sold were not made by the Eastman Company. Had they informed their customers that the films were not made by the Kodak Company, but that they considered them either better or cheaper, the Kodak Company would have had no cause of action.

The whole matter is so clearly set forth in the appended notice, extracted from *The British Journal of Photography*, of March 13, 1903, that we desire to bring it to the attention of all dealers in this country :

"KODAK, LIMITED, AND THE TRADE.

"The following notice has been issued to the Photographic Trade Association :

"Kodak, Limited, *vs.* George Houghton & Son, Limited, and the London Stereoscopic & Photographic Company, Limited.

"*In re* Trade-marks of Kodak, Limited, and *in re* Patents, Designs, and Trade-marks Acts, 1883 to 1888.

"Judgment in the above cases was delivered on the 4th inst., and is fully reported in the *Times* of the 5th, and in the photographic press. It was in favor of the plaintiffs in all cases, except that of the word 'Panoram,' which was ordered to be struck off the register, both in the classes covering cameras and films. The word 'Panoram' is, therefore, open to general use.

"It is the opinion of the council of this association that the thanks of the whole trade are due to those firms who have so energetically and at such personal expense and trouble, contested the case, which lasted for eleven days. This has been done in the interests of the trade. and the fact that the actions have been contested and brought to an issue is of great benefit, as it now clearly defines in what way Kodak, Limited's, trade names may and may not be used in connection with films of other manufacturers than Kodak, Limited, and dealers should have no difficulty in future in avoiding all risks in the matter.

"The following verbatim extract from the judgment makes this point quite clear :

"VERBATIM EXTRACT FROM JUDGMENT :

"The result is that in my opinion the plaintiffs have clearly established that the words 'Brownie,' 'Bull's-Eye,' 'Kodak,' 'Cartridge Kodak,' 'Pocket Kodak,' 'Folding Pocket Kodak,' and the abbreviations of them as applied to films describe and refer exclusively to the Plaintiff's films. It is not disputed that anyone may make and sell films of these sizes and may refer to the cameras for which those films are suitable in order to describe the size of their films and the pattern of the reel or spool but they must not do so in such a way as to lead to the belief that their films are of the plaintiff's manufacture.

"It will be seen from the foregoing that in so far as films are concerned, Kodak, Limited, have established their right to the words 'Kodak,' 'Brownie,' and 'Bull's-eye' when used by themselves, as trade marks denoting their productions. It is, however, quite clear that any manufacturer, wholesaler, or retail dealer, is at liberty to supply any film to fit Kodak, Limited's cameras, and may refer to the name of the camera for which it is required, provided such words as

'Suitable For,'
'Adapted For Use in,'
'To Fit,' or
'For,'

are used in conjunction with the name of the camera.

"Should a customer ask for a 'Kodak,' 'Brownie,' or 'Bull's-eye' film, or use any of their abbreviations such as 'F. P. K.,' etc., without specifying any special make, dealers and their assistants are warned not to supply films of another make than those sold by Kodak, Limited, without making it quite clear that the films supplied are not those of 'Kodak, Limited's manufacture.'

" In all written orders, invoices and receipts for goods, other than those of Kodak, Limited, it is advisable to avoid the use of Kodak, Limited's trade names.

" The advice to the trade from the counsel of this association is :

" ' Keep your trade open and free from restrictions.

" ' Stock everything which the public ask for.

" ' Do not become a tied house, but reserve your freedom to handle any maker's goods.'

" All dealers are invited to at once communicate with the Secretary of the Photographic Trade Association should any question arise in connection with the sale of films.

" The Photographic Trade Association, 89 Farringdon Street, London, E. C., March 10th, 1903."

It is our desire that the Ansco Film shall sell upon its merits, as we consider it to be the best film on the market, and would have consumers buy it because they prefer to, and not by reason of any ignorance on their part as to its manufacturer.

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FOR SALE—Building and outfit; fine location; city of 60,000. The chance for a man with a few hundred dollars cash. Address, A. St. John, Twelfth and Parade Streets, Erie, Pa.

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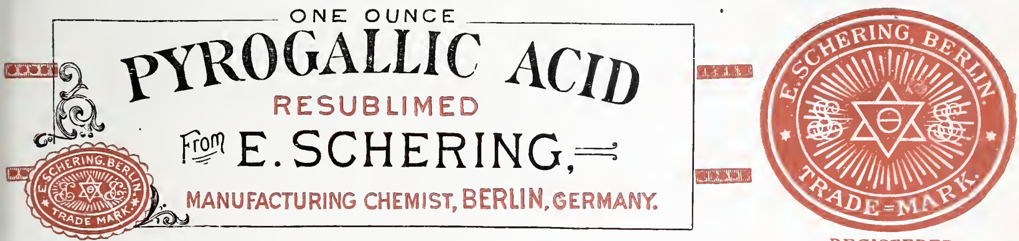

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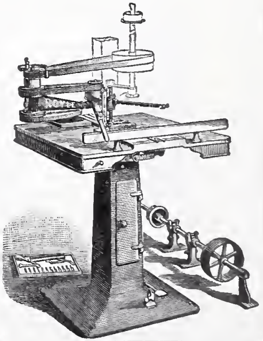

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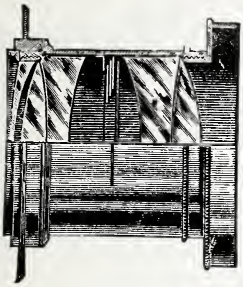

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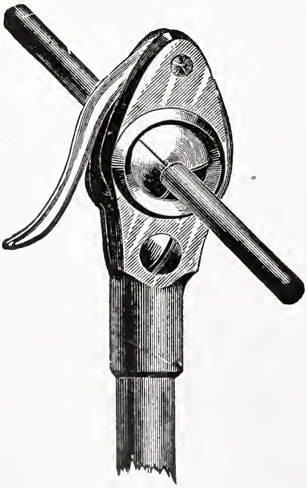

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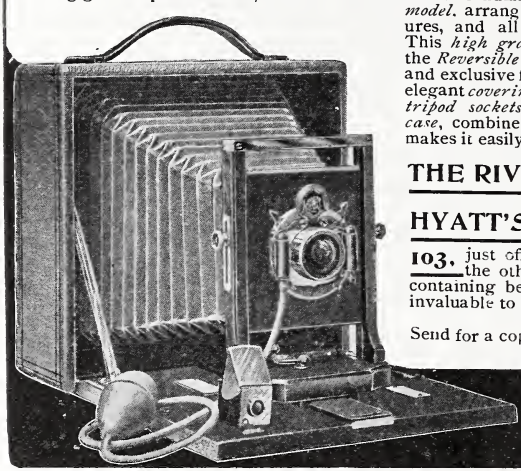

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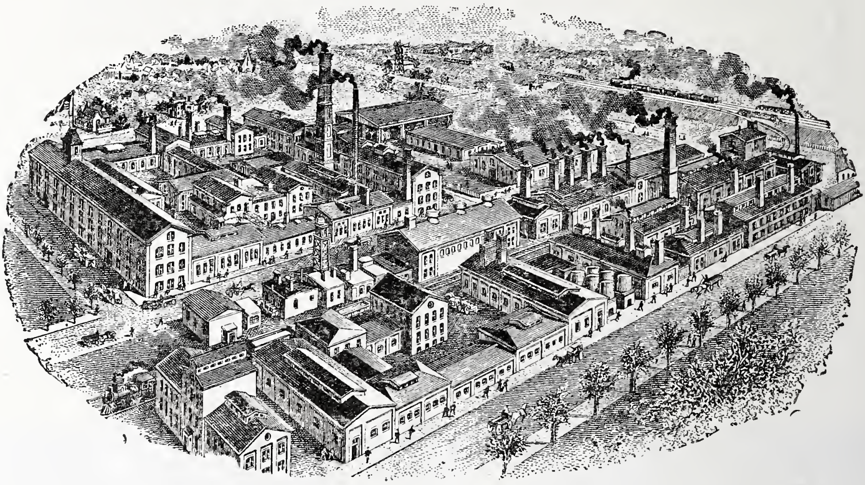

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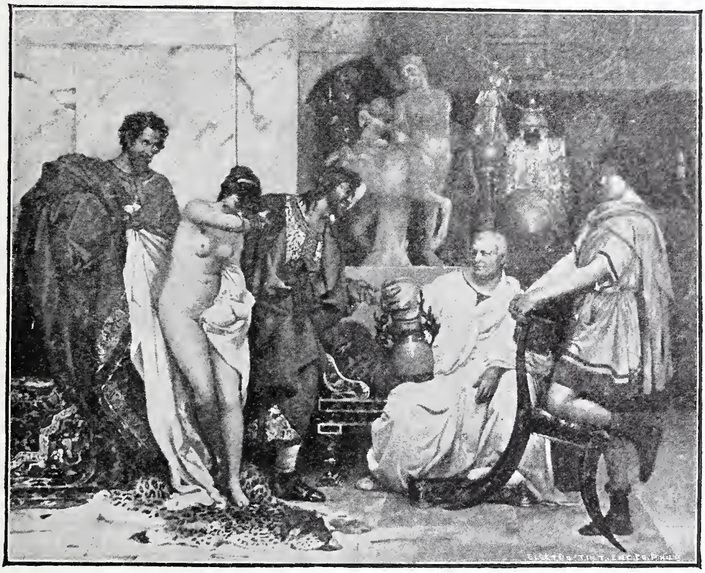

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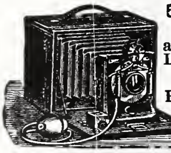

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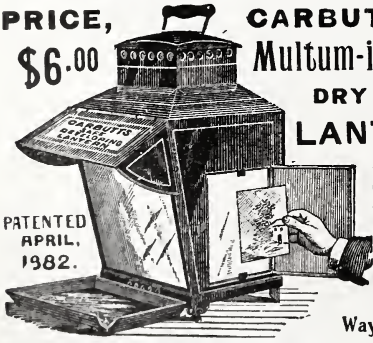

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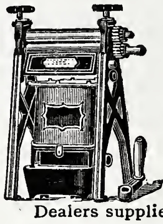

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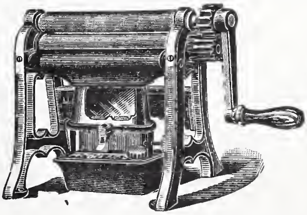

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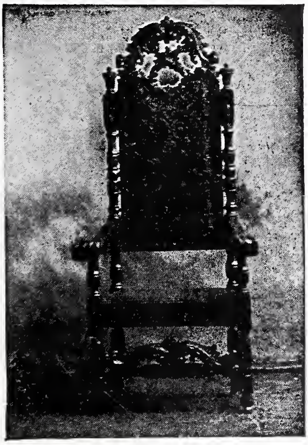

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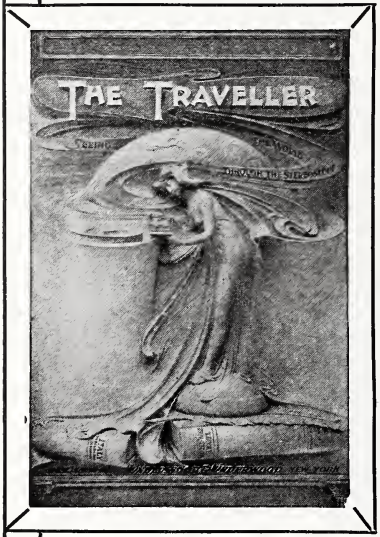
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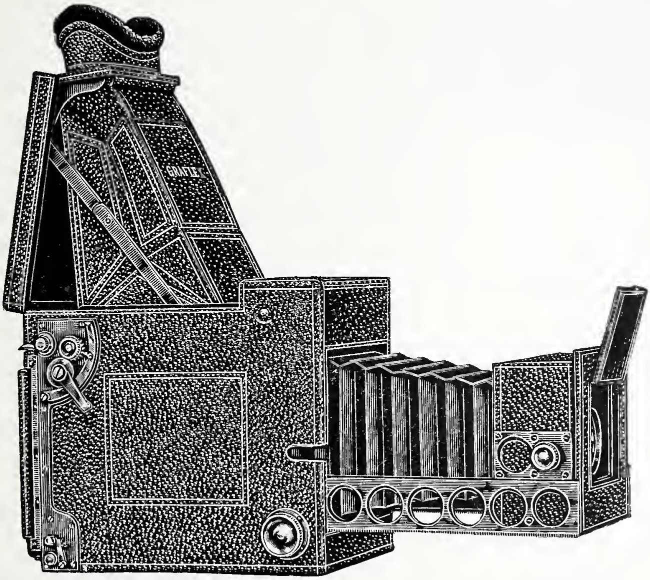

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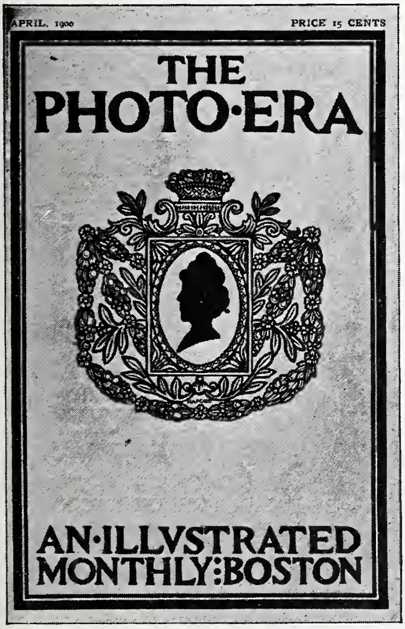

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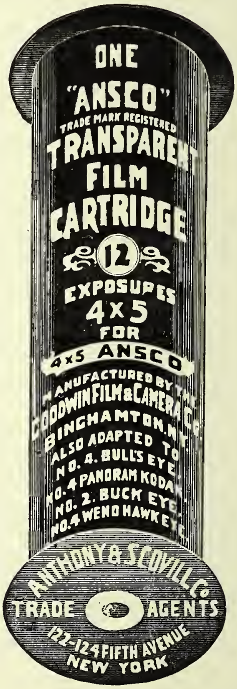

Remember also,

when you ask for films to mention the trade mark, "ANSCO." None genuine unless put up in packages, a facsimile of which is the accompanying cut.

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Photographic and Photo-Mechanical Printing Processes. By Prof. W. K. Burton. English methods, but reliable and comprehensive. (English.) 1892. 415 pp. Cloth, $2.00.

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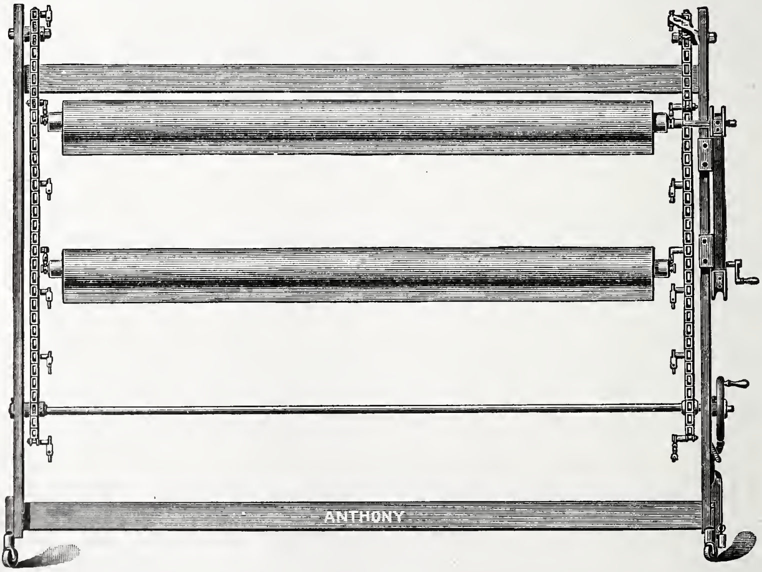

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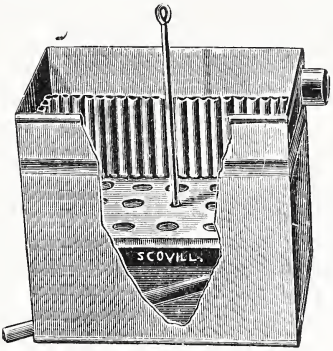

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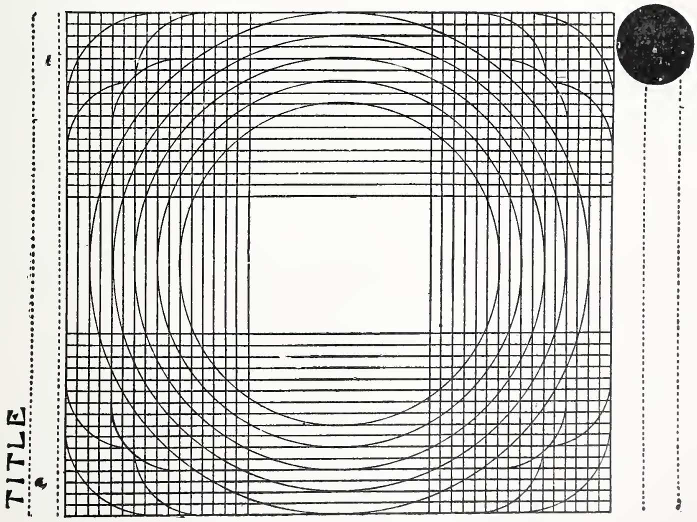

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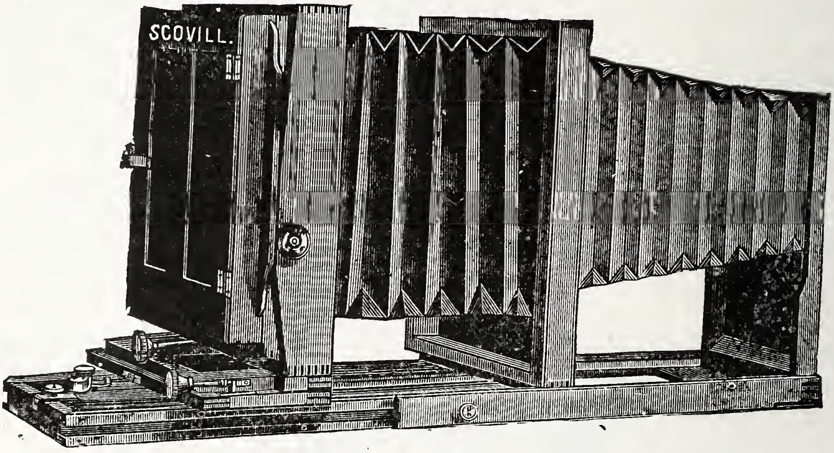

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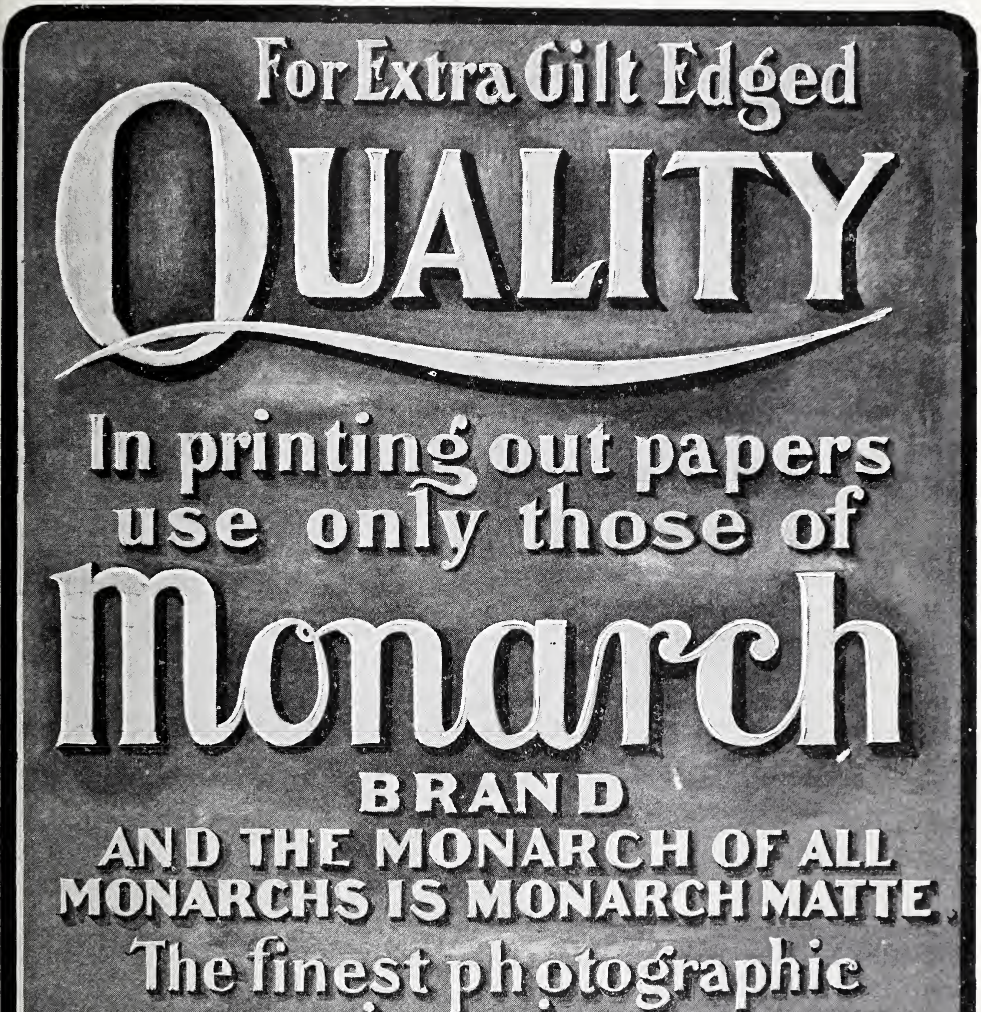

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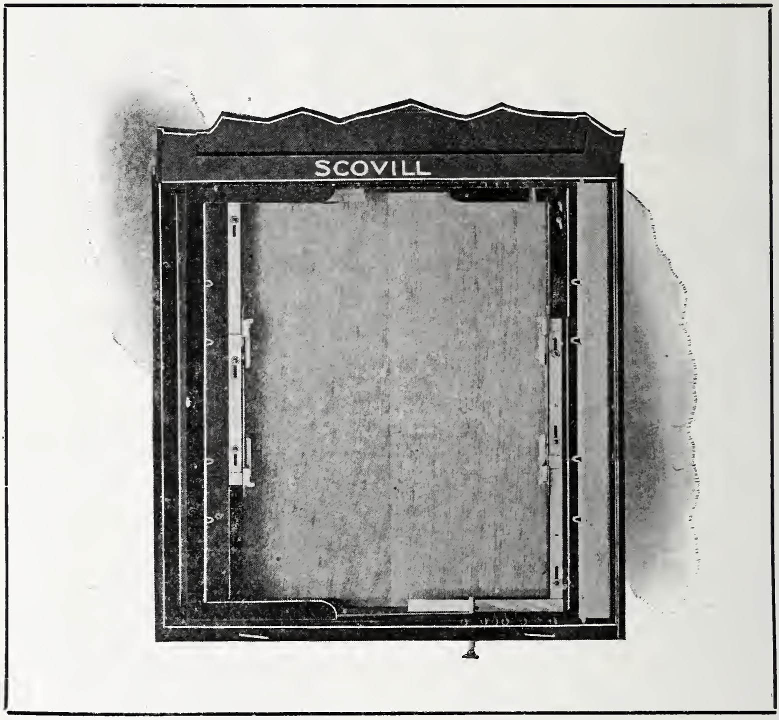

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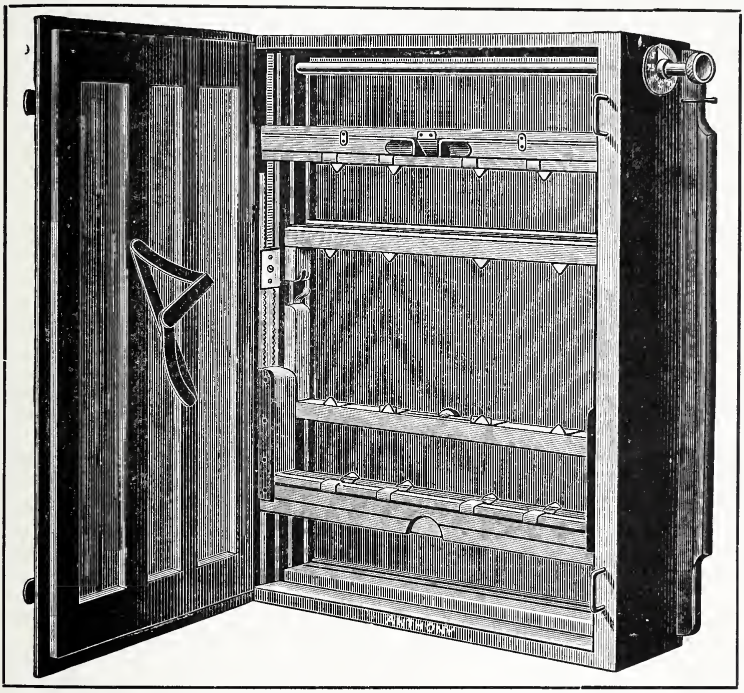

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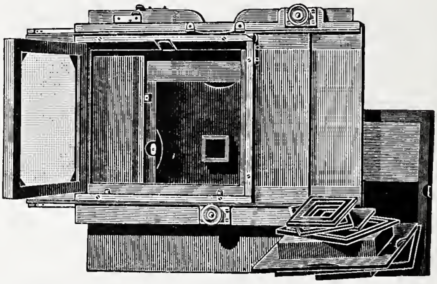

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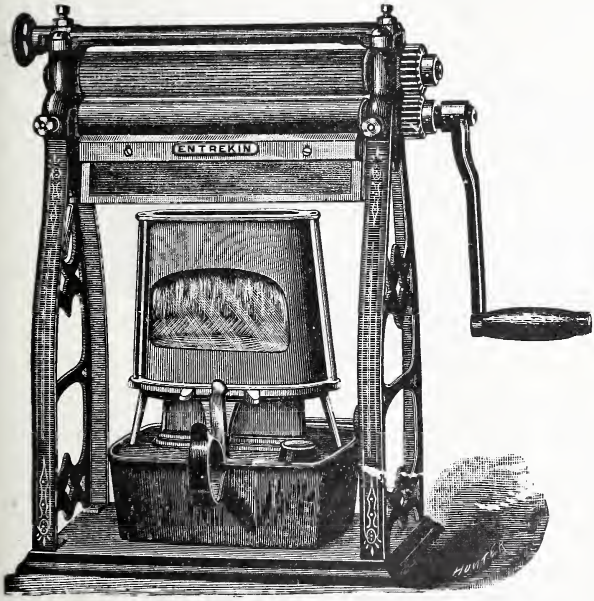

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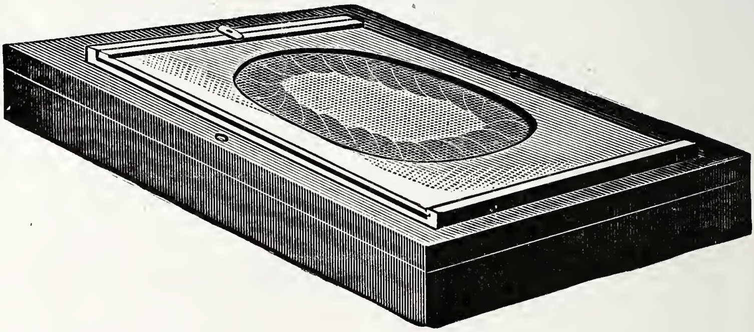

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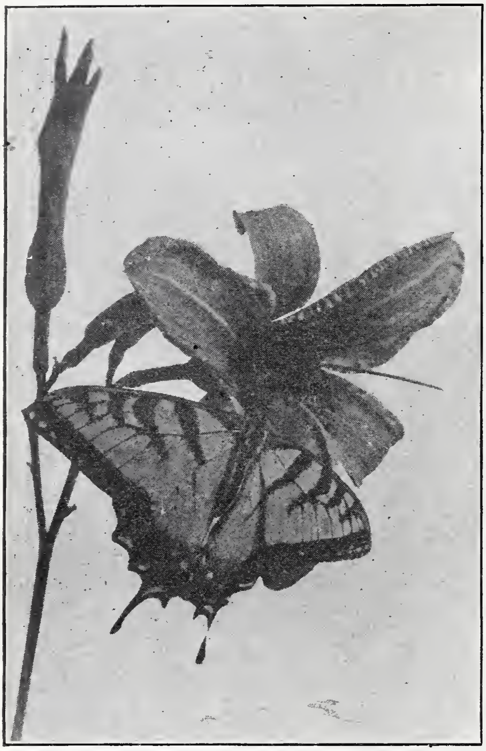

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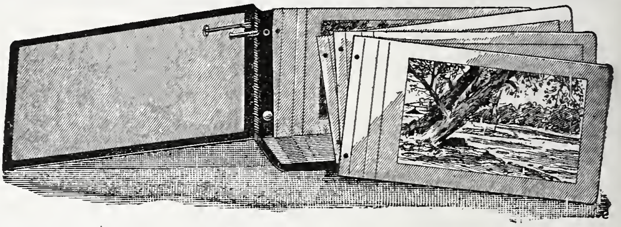

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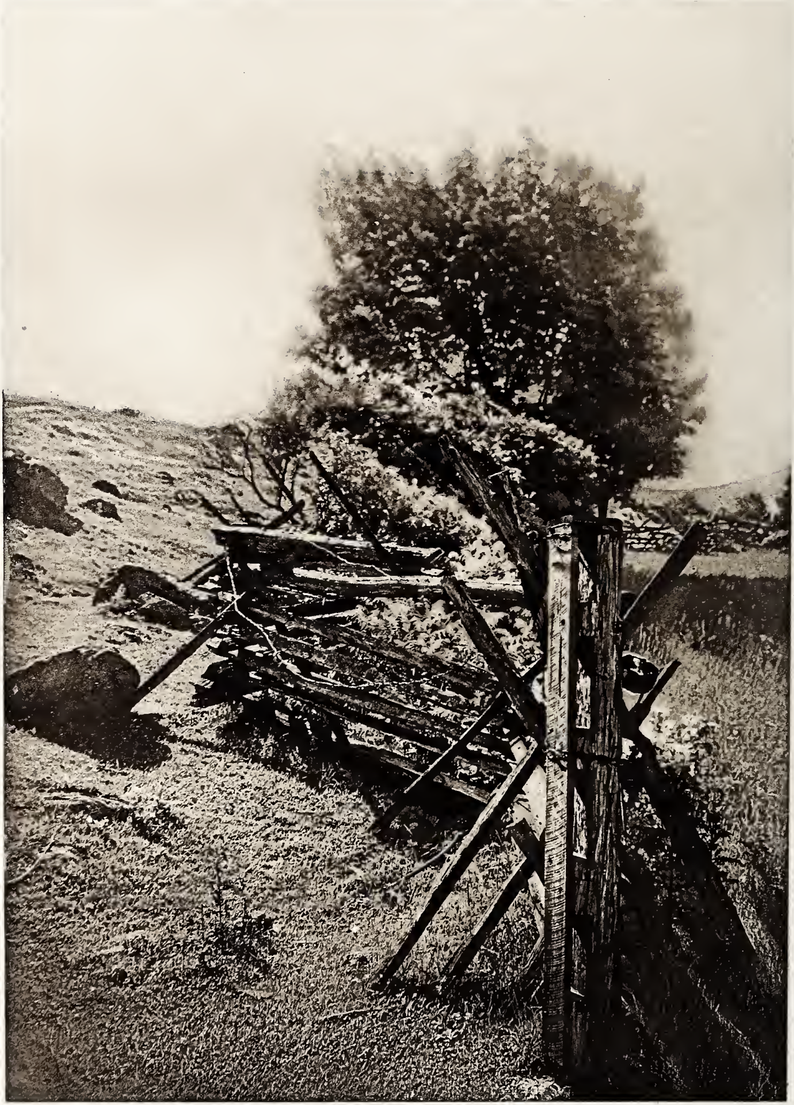
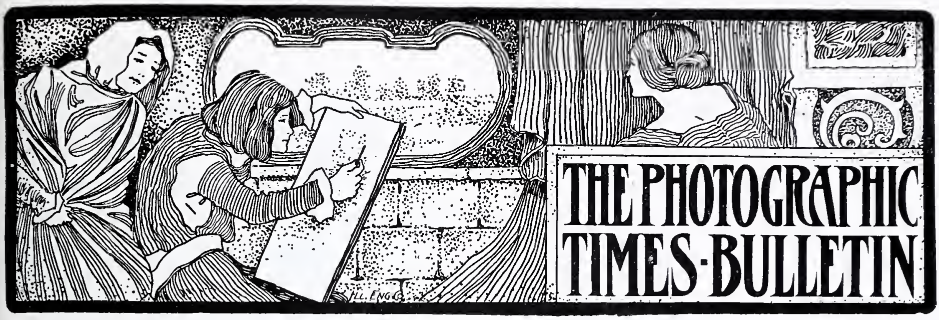


Photogravure W. H. Duncan

Sunrise on the Farm



EDITORS: PROF. CHARLES F. CHANDLER AND SPENCER B. HORD.

VOL. XXXV. JUNE, 1903. No. 6.

ABOUT PEKING WITH A CAMERA.

BY ISAAC TAYLOR HEADLAND.

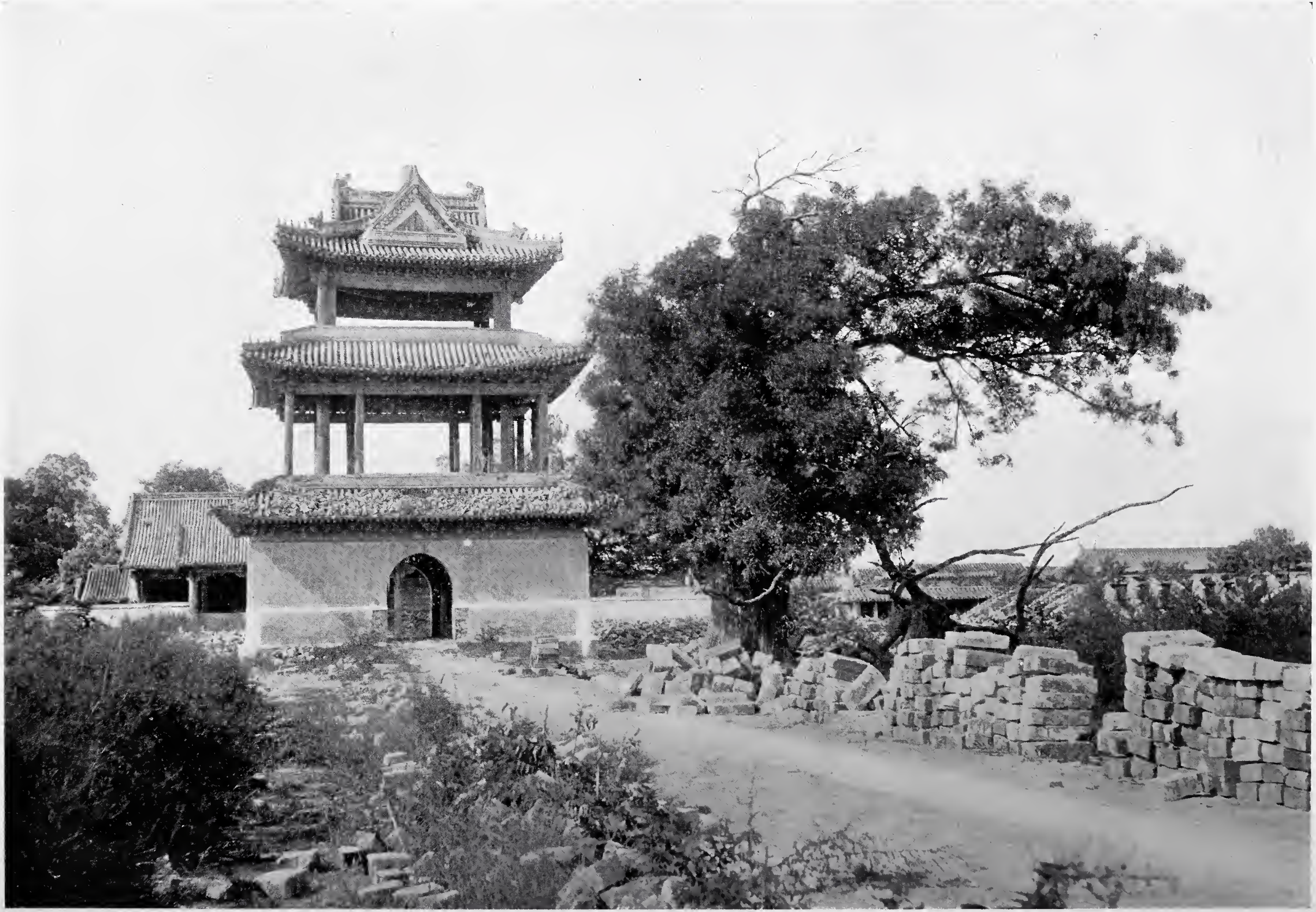
Author of "Chinese Mother Goose Rhymes," etc., etc.

To one who loves the Orient, with its quaint, squatty little houses; its queerly dressed people, where the men wear skirts and the women trousers; where the vest is worn on the outside, and the people all go bare-headed; and where the cut of the little boy's garments is the same as those of his grandfather; it could not but be a pleasure to stride your bicycle and ride off among the 'rickishas, the sedan chairs, the mule carts, which look like Saratoga trunks, the donkeys, and the thousands of foot-passengers, feeling that you were the "observed of all observers."

It was a delight to ride up the street along which Marco Polo rode 600 years ago, to view the same kinds of shops, with their fronts all taken down to reveal what was within, with the same kinds of shop-keepers selling the same kinds of goods, for in this one respect Peking is like the place of which it is said "nothing changes here."

We knew, of course, that the people had no respect for us nor our dignity, that they laughed at us as much as they admired the machine we were riding, but we consoled ourselves with the idea that they could not think less of us than we did of some of them, and so determined to see all that we could that was worth seeing in this one of the largest, as well as one of the dirtiest cities in the world.

The first sight to which we came was the magnificent monument that has been erected by the government in memory of the late lamented Von Kettler, by the taking of whose life the legations were warned that the Boxers meant their extinction during the summer of 1900. It is a triple arch, extending across the great street, each part of which is made of single pieces of stone which weigh in the neighborhood of twenty tons. In order to put these in their places, in the absence of what we would consider necessary machinery, this very practical people, who have a way of doing everything that we can



EXAMINATION HALL.

do, erected a scaffolding made of not fewer than seventeen thousand poles, bound together with not less than twenty-five tons of rope.

On inquiry, we were told that the monument would cost the government not less than 800,000 taels, though our informant was not certain of the real cost. It has been over a year in the process of erection, with an army of laborers blocking the street for two hundred yards or more, while during all this time the carts, chairs, donkeys and foot-passengers have been compelled to pass along the sidewalk, which during the rainy season was a foot deep with mud, which they splashed on those coming from the opposite direction and on the adjoining shops.

HALL OF THE CLASSICS.

It took us only a moment to snap our cameras on this record of Chinese folly and German tyranny, and going east a short distance we entered what used to be the great Examination Hall.

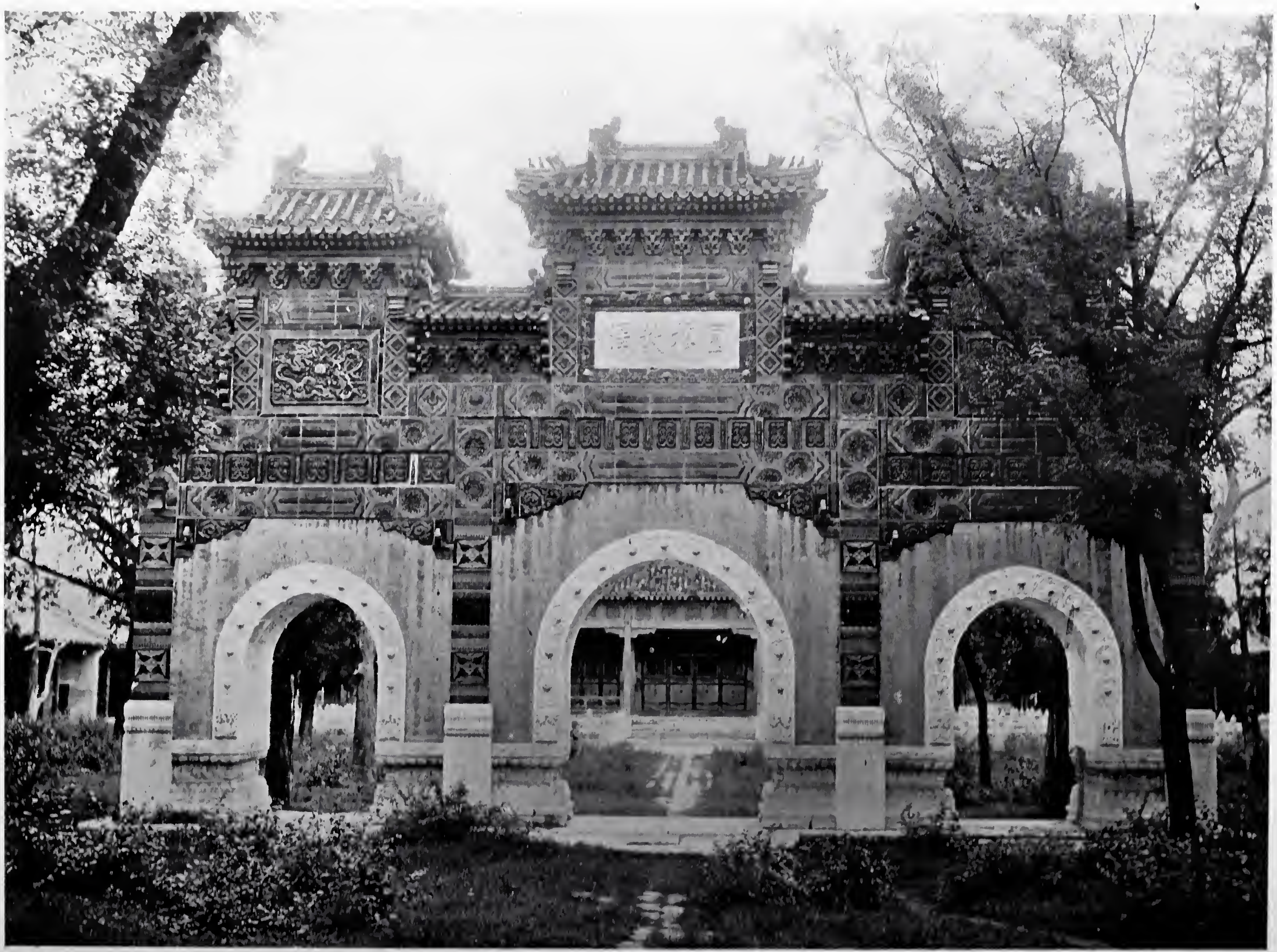
We say "what used to be," for here again we found only the remains of what was the meeting place of ten thousand of China's scholars, ready to strive day and night for a degree, than which nothing in the Middle Kingdom is more sought, coveted, or respected.

"What has brought it to this pass?" we inquired of the man at the gate, who had followed us either as a guide or a spy.

"The Germans tore it down to get bricks to build their barracks;" was the only information or explanation our inquiries elicited.

At the north end of the great street on which the Von Kettler monument stands; we came to the Yung Ho Kung, the greatest Lama Temple in China. It occupies what was the birthplace of Chien Lung, who sat upon the dragon throne from 1736 to 1796, sixty of the most brilliant years of the present dynasty. In one of the side-rooms, in which were the gods who take charge of war and pillage and all affairs of conquering and conquest, were thirty or forty priests chanting scriptures calculated to conciliate the gods and win their favor in any undertakings they might have in the future.

In another hall were some five hundred priests engaged in worship and praise of the Goddess of Mercy, who



PORCELAIN ARCH

was standing in their midst with a new coat on, the recent gift of some devotee who was anxious to win her special favor. Immediately in front of her was a large measure in which was a bushel or more of unhulled rice, and beside this were small lights, made by floating pith in a vessel of oil, for the support of one of which we were asked to contribute, anything from a Mexican dime to a Mexican dollar.

To the rear of this building was the one we were most anxious to see. It was the highest of all the buildings connected with the temple As the coolie piiest opened the door with one hand, he presented the other for the customary cumshaw, which being given, we were ushered into a large room in which stood a Buddha seventy feet in his socks, twenty feet in diameter at the widest part, and which our guide as. sured us was made of a single piece of wood, in spite of the fact that the plaster had been knocked off in several places by the soldiers or others during the recent unpleasantness.

As we came out of this temple we were met by a crowd of boys, who having received a dollar or more in ten or twenty-cent pieces, were anxious to exchange eleven ten-cent pieces for a dollar, because, as we learned, they could get more of the native cash for the dollar than for a dollar and ten cents in change.

Only a few yards west of here we visited the greatest Confucian temple in north China, if not the greatest in the empire. It was in strange contrast to the Lama temple we had just left. The gate stood open, and the gatekeeper accompanied us through the grounds, pointing out the great stone tablets on which is inscribed the name of every graduate of a certain degree in the empire. Inside the gate were ten stone drums, which we were told were relics of the Chou dynasty, more than two thousand years ago, and as the history

TEMPLE OF HEAVEN.

of these drums stood beside them, in the form of a stone monument, we could not doubt that what was told us was true.

In the court were great cedars which must be hundreds of years old, as some of them are three to four feet in diameter. From the forks of one of these an elm, six to eight inches in diameter, sent its top high above that of the tree that nursed it, while its roots were buried in the body of the latter.

DRAGON THRONE.

One was not bothered with priests, whose cupidity indicated that their religion was largely a matter of cash and clothing rather than worship of a divine being, for not a priest was to be seen anywhere. Neither was there an idol about the place. Standing in a cupboard-like structure on the north side of the room is a small board, painted red, on which are inscribed the words: "Confucius, the teacher of ten thousand ages," while on his right and left stand the "tablets" of his disciples, and in front in the center of the room a few incense burners, and each one who worships there must be his own priest, the only requisite being intelligence—as that is viewed in this great land.

Crossing a court as we left this place we entered "The College for the Sons of the Empire," or as it is called *Kuo Tzu Chien*, the oldest living educational institution in the world. As we entered the gate there stood before us a *P'ai Lo*, or triple arch, made entirely of yellow and green porcelain tiles, the face of the arches and base of the structure being of white marble. No illustration, unless the colors of the original were reproduced, could do it justice, and both our eyes and our cameras stood transfixed upon it for some time.

Walking up toward it, we first beheld the Hall of the Classics, as the *Pi Yung Kung* is popularly known by foreigners, through the central archway, and it made a beautiful picture indeed. The square building being capped by a gilded dome, and covered with yellow tiles, glittered in the sunshine, and looked worthy to be the place where the emperor sits on a gilded throne, behind a beautifully carved ebony table, and examines "the sons of the empire."

In rows of open buildings on the east and west we saw the whole of the "Four Books" and "Five Classics," the sacred books of the Chinese, carved on stone tablets, to prevent their ever again being destroyed, as they once were by the man who built the great wall of China.

West of this, a half mile or more, we came to the "Bell Tower," a building ninety-nine feet high in which is suspended a bell thirteen feet in diameter and twenty feet in height. The bell is of bronze, and was cast as we were told in the following way:

When Yung Lo (eternal happiness), the third emperor of the last dynasty, built the wall around the city of Peking, he determined that every thing should move as if by clock-work. In order to bring this about, he ordered one of his officials to cast three great bells, one for the worship of Buddha, and one for the regulation of the watches of the city.

LAMA TEMPLE.

The official set about this at once, and when he had the pattern and metal all prepared, he invited the emperor and great officials to witness the great feat. The audience was as large as it was select, for emperor and princes, scholars and officials, as well as the sons and daughters of wealth, were all present. When everything was in readiness, the great cauldron of molten metal was tipped, and the bell came out honeycombed with holes, a total failure.

The emperor was angry, the people were disappointed, and the official in charge of the work was greatly shamed and chagrined. He was ordered, however, to try again, in the hope that his second effort would be more successful than the first.

Again it was prepared and his majesty, with all the princes and officials, were invited to witness the event, but the results were no better than before. The emperor was angry, but gave him one more trial, with the threat that if he failed the third time he would lose his head.

The official went home sad and disappointed, hardly knowing what to do. He had but one child, a little daughter, who when she saw her father inquired the reason of his sorrow. For a long time he refused to tell her, but finally did so.

She said nothing, but privately went and inquired of the soothsayer the reason of the successive failures. He told her that unless the blood of a young girl were mixed with the metal the third trial would result the same as had the other two. She returned home, but said nothing to her father, except to encourage him in his preparations for the third casting, and when all was in readiness, asked to go and see it done.

Her father at first refused, but her entreaties finally prevailed and she was allowed to go. She managed to get near the cauldron, and, as it was tipped, jumped into the molton mass. One of the bystanders caught her by the foot, but her shoe came off, her body was mixed with the metal, and when the bell came out it was without a flaw.

And now whenever the bell is rung, which it is for every watch of the night, the Chinese say that the moan which follows each stroke is the voice of the little girl calling for her shoe.

After listening to this story, we mounted our bicycles and returned home past the Coal Hill, the grounds of which we were forbidden to enter, well satisfied with what we had seen, not, however, without being impressed with the clearness of the atmosphere, and the aid it lends to the camera in its delicate work.

CONFUCIAN TEMPLE.

A STORMY EVENING. By J. Carpenter.

THE QUALITIES REQUIRED IN NEGATIVES FOR DEVELOPING PAPERS.

A WORD FROM GEO. G. ROCKWOOD.

THERE is no paper made on earth that will print with all kinds of negatives; and the converse of that proposition is true, that no negative can be made that will print on all kinds of paper with satisfactory results. This is a preliminary statement of the fact that all developing papers require especially made negatives or negatives of a particular quality in order to get the best results.

I have been making some experiments with developing papers, the results of which lead me to say: Negatives for all developing paper should be full (not *over*) time, and developed with the utmost caution, as not to in the slightest degree "block" the high lights; in fact, a very thin but snappy negative is just the thing required—full of detail, but clear in shadows.

There is no danger of carrying this caution to an extreme, for this particular paper will almost print from an ambrotype. It will be noticed that the very best results obtained from amateur films or negatives are produced on the various developing papers. It is because the amateur almost universally stops short of full development; hence they have almost exactly the quality to produce the best results on this grade of paper.

Negatives possessing this peculiarity will not make the best impressions on P. O. P. paper; but if care is taken in making the negatives for Cyko, it would be a skilled expert that would distinguish prints on such paper from the best platinum photographs.

EVENING SHADES. Pinhole Photograph by W. W. Wyckoff.

METOQUINONE.

BY A. B. AUBERT.

METOQUINONE is a new developing agent, discovered by the Messrs. A. and L. Lumiére and Seyewetz, the preparation and properties of which are given below.

Preparation.—To prepare it, saturated aqueous solutions of metol and hydroquinone are mixed, in the proportion of two molecules of metol (sulphate of methylparamido phenol) and one of hydroquinone, the mixed solutions are then saturated with duhydrous sodic sulphite. In a few seconds an abundant precipitate of brilliant white scales makes its appearance. Melting point 135°, while that of hydroquinone is 169°, and that of metol 87°. This compound is soluble in cold water; 1 pts., in 100 at 15°, more soluble in hot water; 10 pts. in 100 at 100°; upon cooling, the metoquinone crystallizes out. It is soluble in cold alcohol (20 pts. in 100), and only slightly so in cold benzine, ether and chloroform. Acetone is its best solvent; 100 c.c. dissolve 35 grams at common temperature. Boiled with dilute acids, it is decomposed into hydroquinone and a salt of metol corresponding to the acid used; the relative qualities of the components indicate that it is a combination of two molecules of metol and one of hydroquinone. The formula assigned to metoquinone by the authors is :

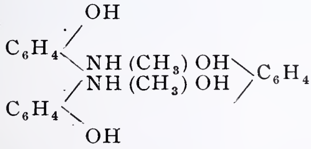


Photo properties.—Metoquinone will act as a developer when mixed with sodic sulphite, as does the chlorhydrate of diamido phenol; its action, however, is slower, but it produces negatives very similar to those produced by this latter developer. The normal formula proposed is :

Water	1,000 pts. or grams.
Metoquinone.....	9 pts. or grams.
Anhydrous sodic sulphite	60 pts. or grams.

This solution is colorless, and may be kept indefinitely in corked bottles, without change. In open vessels it becomes, very slowly, colored, taking months to show any appreciable change of color, and in no way losing its developing power. When in use, the solution does not become colored, and can be used over and over again until exhausted. It does not stain the fingers.

Normal formula with alkaline carbonates.—Metoquinone is the only developer that can be used with or without alkaline carbonate, and not produce a fog when used with it.

The addition of an alkaline carbonate to the metoquinone developer greatly increases its reducing power, one to two per cent. being a sufficient quantity of the carbonate. The rapidity of the development is increased two-and-a-half times by its addition. The proposed formula for a normal developer is :

Water....	1,000 gr.
Metoquinone	9 gr.
Sodic carbonate............	10 gr.
Anhydrous sodic sulphite ...	60 gr.

Formula with acetone.—The solubility of metoquinone in acetone renders its use in the place of alkalies particularly advantageous. A saturated solution in acetone (35 per cent.) may be used and added in proper proportion to the solution of sodic sulphite, or else one may simply add acetone to the usual sulphite solution. The following formulas may be used :

No. 1.

Saturated solution of metoquinone in acetone........	30 c.c.
Anhydrous sodic sulphite...	60 gr.
Water..........	1,000 gr.

No. 2.

Metoquinone	9 gr.
Anhydrou sodic sulphite....	16 gr.
Acetone	3 c.c.
Water......................	1,000 gr.

Use of caustic alkalies.—The caustic alkalies can be used without danger of fog. By the addition of one-half gram of lithia to the normal sulphite solution, the rapidity of development is twice as great as when the carbonate is used, and five times greater than that of the sulphite solution. By the addition of 1 gram of lithia, the maximum effect of the alkali is obtained.

AUTUMN. By W. A. I. Hensler.

Use of formosulphite—Formosulphite plays the rôle of an alkali and alkaline sulphite at the same time; it gives very good results with metoquinone.

The formula which gave the best results in the hands of the authors is:

Metoquinone	9 gr.
Formosulphite	60 gr.
Water......................	1,000 gr.

This developing bath acts with about the same energy as one containing an alkaline carbonate.

Use of potassium bromide.—Metoquinone is sensitive to the action of potassium bromide; 2 c.c. or 3 c.c. of a 10 per cent. solution have a marked restraining action, if added to 100 c.c. of developer.

Development of paper.—The fact that this developer is peculiarly sensitive to alkalies, without appreciable darkening of the solutions, makes it a valuable developer for gelatine papers.

With sulphite alone, it gives a developed image on paper very similar to that produced by diamido phenol.

The formula proposed by the authors for paper is:

Metoquinone	9 gr.
Anhydrous sodic sulphite...	60 gr.
Anhydrous sodic carbonate.	10 gr.
Potassium bromide, 10 per cent. solution	10 gr.
Water......................	1,000 gr.

Or:

Metoquinone	9 gr.
Formosulphite..............	60 gr.
Water......................	1,000 gr.

Conclusions.—Metoquinone is a valuble developer, both for plates and gelatine papers. Not only is it one of the few substances that can be used without alkali, and will not attack gelatine, but it also offers the following advantages, which have not generally been realized by other developers of its class :

1. Its solutions do not undergo appreciable change even in open receptacles.

2. It can be used to develop any number of plates until exhausted.

3. Its reducing power can be increased by the addition of more or less alkali, alkaline carbonate, or, better still, formosulphite, without risk of fogging plates.

4. Its solutions are sensitive to potassium bromide, which makes it valuable for the development of over-exposed plates.

A VENETIAN MARKET BOAT. By Percy Lewis.

PHOTOGRAPHING THE INVISIBLE.

OBSERVING the Mount Blanc from the window of my hotel in Geneva after sunset, at the beginning of September, 1883, I was surprised to find that a greenish blue glow of the snowy summit was still visible to nearly half past ten o'clock. I was sure that it was the snow and the ice mixed with the phosphorescent conglomerate that emitted rays of nearly the same hue as the Lake Leman itself. It was obvious that the greenish-blue rays would permit me to get a photographic image of the mountain and the chain of Mount Blanc, even when this feeble hue had become entirely invisible to the human eye.

I tried to see something of the top of the mountain at eleven o'clock, with a very powerful opera glass of Dubosq, but scarcely a trace of it could be perceived.

I had turned my Lancaster-camera at daytime on the mountain, to take an image of the whole chain on a medium yellow, sensitive, Thomas plate, and left one for the evening in the camera. Exposing six minutes before midnight the same day and on five days following, I got, with a dilute pyrogallol developer, a photograph showing Geneva, the port, and Lake Leman, with the surrounding mountains and a good deal of the chain of Mount Blanc, with all details.

As the evening, after a hot day, was cloudy and a thunderstorm seemed to be coming on, and no moonlight was interfering, there was violet and ultra violet radiation only, that could have worked out the photographic image.

The reproduction shows Geneva illuminated by electric-light, and the last steamer, just due at eleven and forty-five minutes, landed before the hotel, and at the entrance of the port the piloting boat at night service, the surroundings and Mount Salève, and finally, the chain and Mount Blanc itself.

As I had, in 1879, at a journey in Southern Tirol, obtained a photograph of the Ostler at noon, during a hailstorm, the top of the mountain laying in sunshine and a dark cloud hovering over it, that showed electric discharge between the cloud and the top, invisible with the opera glass, I was led to consider as to the cause of the actinic action at night, the luminiscence of the surface of the earth produced by sunshine at daytime, and of electric radiation at night. Indeed it was on the same night, at two o'clock after midnight, impossible to get more than a vanishing trace of Geneva and its surroundings, with the same time of exposition and the same Thomas plate, sensitive equally for the yellow and blue light.

It is obvious that fluorescence and phosphorescence by the radiation of actinic light waves and electric radiation, what I call now generally luminescence of matter, is the veritable cause of the formation of the image on the sensitive photographic plate, and that actinic action must be highly strengthened by a plate prepared with a fluorescent medium as chlorophyll, for collodion plates, or eosine and erytheosine for gelatine dry plates.

That fostering action of fluorescent matter, as a sensibilator for invisible radiations of light and electricity induced me to try another way, to obtain photographs of objects quite invisible by any optical apparatus or the human eye itself.

I placed, on the terrace of my observatory in Prague, the camera at day, turned on the steeple of the church of St. Nicolas, and placed the image of the clock of the steeple centrally on the plate.

On a very dull night, without moonshine, as in Geneva, at midnight, I then exposed instead on a fluorescent dry plate, on a plate covered with a layer of "Balmain's phosphorus," of glossy surface, like the glass plate, which it covered.

After an exposure of fifteen minutes I shut the objective with its cover, brought the plate in the dark room, without any trace of lighting at all, and made the contact of the exposed phosphorescent Balmain plate with a sensitive gelatine dry plate, during the rest of the night.

On the following morning I developed the gelatine plate, with the common developer (diluted), and found the image of St. Nicolas' steeple, the clock and the moving hands on it, showing the time of exposure by the broadening and indistinctness of the minute-hand's image. The sun's radiation leaves an invisible radiation of the objects illuminated in daytime by the solar rays, which slowly vanishes during the following night.

I proposed to Admiral Mouchez, then occupied with the preparative labors for the photographic chart of the heavens, to use a well prepared, very sensitive phosphorescent plate of short exposure time to get very sharp images of the stars, with mirrors instead of refracting telescopes, exempt absolutely of chemical focus. But I was told to be too late with my proposal as all preparative labors were finished, after causing great expenses.

Yet I mean it would be worth while for amateur photographers and amateur astronomers, that cannot lay out great sums of money for equatoreals and clock-motion, to try this inexpensive method of short exposure, and following long contact (ad libitum) of the phosphorographic plate with a rapid gelatine plate.

I call that new contact method "phosphorography," and the images thus obtained "phosphorographs."

Trying to obtain the solar spectrum by my photographic apparatus I obtained nearly the whole of the invisible ultra violet spectrum, and exposing previously the Balmain plate to daylight, I could obtain even parts of the invisible red end of the spectrum.

This induced me to order a salt prisme and salt lens by M. Reuter, at Frankfort on M., and exposing in a dark chamber, my bedroom in winter-time, at midnight, I obtained the image of the stove, by the salt lens, and a long exposition on a phosphoreseing Balmain plate, an image produced evidently by the extinction of the phosphoresence of the Balmain plate by the red and ultra red rays (the caloric radiation).

I applied for the reproduction of the ultra red spectrum a parallelebipedon of a salt prism combined with a fluid prism of anethol that I called dispersion parallelebipedon (C. R. de l'Académie sur l'emploi de prismes à liquide daves la Spectroscopie à Vision directe; N° 9, tome XCIII, 29 août 1881); also a salt prism combined with an identic prism of fluorspar.

It is obvious that all rays of the spectrum from the ultra red to the ultra violet region of the spectrum may be obtained by a long exposure of the image of the spectrum on the Balmain plate, and a long contact (ad libitum) of the exposed plate, with a sensitive gelatine plate under pressure in the dark room.

There is indeed nothing visible or invisible to the eye, that could not be "phosphorographed" by the exposed working method. Even without any photographic apparatus "invisible radiations" can reproduce the images of printed sheets of paper, books and old and modern engravings. Paper is highly phosphorescent, when exposed in good sunshine during an hour or so.

If printed paper is exposed and then brought in contact with a gelatine dry plate under heavy pressure an image may be obtained after a short contact by developing the photographic plate or paper afterwards, and what is the most important falsification of documents, the traces of erasing and different inks used may be thus detected.

Just recently I tried the uranates and nitrates of uranium; taking very smooth English paper and a bath, of a ten per cent. of watery nitrate solution, on pressing the dried paper on a sheet of impressed paper that was a little while ago well exposed to the sunshine, we get pressing it on any kind of photographic paper or plates, shortly an image without development, it is sufficient to fix the reproduction, and that reproduction of the latent image may be obtained after months, and repeatedly. The only condition is to keep all absolutely dry.

It is very advantageous to color dry collodion plates with an alcoholic solution of chlorophyle, and the dry gelatine plates with a watery solution of cosine (yellowish), (Comptes rendus de l'Académie, 30 août 1886.)

Another important application of phosphorography, or the luminiscence of the exposed plate, I obtained, in meteorology, phosphorographing the sun, and reproducing its surroundings, corona, protuberances and the images of passing terrestial cyclons between the sun and the earth, the sun acting as luminous background.

As cyclonal motion in the atmosphere always causes condensation of aqueous vapor, of pulverulent bodies suspended in the air, and produces in that way an absorption of actinic rays, represented on the plate by white zones of different hues, from the white of fresh fallen snow to the grayish dark background of the surrounding parts of the heavens. The forms of those zones, which I called "absorption-zones," and which were presented by M. Tanssen at the sitting of the January 16, 1888 (for the last ten years, 1878 to 1888), show therefore the formation of whirling motion in our atmosphere, at least twenty-four hours before the cyclone, by its slow descending motion, come into contact with the earth's surface.

The chlorophyle-collodion plate shows round thesun, spiral lines, circular, eliptic, and even parabolic or hyperbolic curves of snowy white down to darkish gray; if the storm imminent be very heavy, the diameter of this surrounding zoze becomes very great in comparison with the sun's diameter in the photograph, from six to twenty and more diameters, and thus became the means of unerring foretelling of the great cyclones of the islands of Martinique (September 10, 1898), of Maritius, of Madrid, Bordeaux (1895), Paris, 1896 (bis) and 1897, but also of volcanic eruptions and earthquakes in Italy, 1892, and recently in Italy and Martinique and Central America, 1902, for the discussion of that daily photographic observation of the sun, from 1875 to 1902, have shown to evidence *the periodicity of 12,6 jours* according with the time of solar rotation and another of nearly ten years corresponding to the period of solar activity. (Comptes rendue de l'Academie séance du 4. Avril 1887, etc.). The last eruption I have thus foretold (of October 31, 1902) was confirmed by the governor Miquelon's telegrams of November 1, 1902, by the telegram of the governor of St. Vincent, by the recent eruption of Stromboli, and by the news received from Guetemala, on the eruption of October 30, 1902, of Mount St. Maria, the destruction of four villages and 250,000 cwt. of coffee, followed by the submersion of the port and town Okus, on October 31, 1902, and shows how sure the dates furnished by this method are. That is: *by the phosphorography or the photography of the Invisible.* I supposed that solar electric radiation be also the real cause of the terrible cyclones, typhoons, and to them immediately following or simultaneous magnetic storms, volcanic thunder storms at their eruptions, and destructive earthquakes accompany them.

I could indeed imitate those phenomena with the apparatus of Elihu Thompson, shown by him at the Paris International Exhibition, 1889, and with much smaller electro-magnetic apparatus recently constructed by Ernecke, at Berlin. This small apparatus, only two diameters high, with an iron-core of insulated soft iron wires of only two or three centimetres in diameter, and acted on by alternating currents of an electric central, which evaporates instantly. the water filled in a heavy copper-cylinder, and casts the cork, firmly driven into the supply pipe, with formidable explosion, some meters from the electro-magnet, followed immediately by the heavy copper-cylinder itself, which represents the volcanic crater, blown up by the vapors of water infiltered in it by the leaps, formed by the preceding earthquake, as well in the crater itself as in the flanks of the mountain. To make visible electric radiations, otherwise absolutely invisible, I tried the following methods, based on the action of electric radiation on luminiscent bodies:

I disposed the experiment in the following manner: In an absolutely darkened chamber I placed an induktorium (giving sparks forty-five c.m. long) and drew the platinum points of the discharging apparatus asunder, which were placed in front of a large cube of uranium glass, the frontal plan of which had a star, cut out of very white cream red paper fastened to it.

I set a photographic camera right, to give a sharp image of the paper star fixed to the luminiscent background, and tore the platinum points asunder till even in absolute darkness no perceptible brush of electric light was visible. Now I made an exposure during ten minutes with a short focus Darlot-lens, on a middle yellow, sensitive Thomas plate and developed it immediately afterwards.

The image of the white paper-star was well visible in the luminiscent background, and I sent the plate thus obtained, on July 20, 1886, to the Secretary of the R. S. M. Georges Stockes, who has given some very interesting observations in his letter dated from Ireland, August 23, 1880, on the visibility of a parallelebipedon of uranium glass in a wholly dark night at two o'clock.

He had placed the glass parallelebipedon on a window in his sleeping-room at two o'clock after midnight. He saw a greenish glimmer, a faint trembling light on the board of the window-sill and found there the long forgotten parrallelebipedon of uranium glass, in a dark night, with entirely covered heaven, and reminded me thus of a similar experience of Sir Sabine, on a trip in the polar sea, when a polar light, not seen, produced a similar effect.

M. Stockes says in a letter, addressed to me, in date of March 7, 1887. "I had several times noticed that even on a dark night, when there was no moon shining, if the parallelebipedon were held horizontally, the eye being nearly in, but a little below the plan of the upper surface, there was a perceptible amount of phosphorescence in the glass, near the upper surface. Now, where did the exciting rays come from? Was it from the stars, was it from an auroral glow? No sign of auroral glow was to be perceived. Was it several times reflected solar light? The sun was too far below the horizon. But be the explanation what it may, if there were rays coming from the sky, which were strong enough to excite a sensible phosphorescence in the glass, may not stellar rays have been strong enough to excite your Balmain's luminous paint sufficiently to cause, in its turn, to act on a photographic plate?" . . . And further in a letter of April 22, 1887, M. Stokes says: "On coming to London this week I found, at the Royal Society, the photograph you were so very kind to send to me, and which had traveled quite safely. . . . The cause to which you attribute the fluorescence or phosphorcence, whichever you please to call it, of the uranium glass by night is the same as that to which I was most disposed to attribute it myself. I called it auroral light, but I meant the same thing as your *dark discharge;* there can be no doubt that the aurora is an electric discharge, and there may be discharges of a stellar nature *too faint to be seen*, constantly going on. My researches on fluorescence have long made me familiar with the strong actinic power of the electric brush. At a lecture I gave at the Royal Institution, in London, in February, 1853, I showed, among other things, the effect of the electric brush in exciting the fluorescence of a purified solution obtained from the bark of a horse chestnut. After the lecture Sir John and Lady Herschel, who were present, came to the table to see some of the experiments more closely. With respect to the effect of the electric brush on the horse chestnut solution, Lady Herschel remarked that more light came from the solution than from the brush itself.

In the photograph you sent, I notice that the actinic effect is a good deal stronger at one pole than at the other, and from the form of discharge it appears that the pole at which the action was the stronger was the negative. However, there is a strong effect on both poles. . . I heard it stated that in the arctic voyage Captain Parry had sailed through an auroral arch. Many years ago I asked Sir Edward Sabine, who was on the expedition, about it.

He told me that he could not say positively that they had sailed through an auroral arch. What occurred was this: "The night was very dark, so that you could not see your hand. Presently a luminosity was seen towards the quarter, and at first, I suppose, low down. This gradually seemed to come overhead, at which time a man could have been seen on the masthead. This passed over, and it became dark as before, a certain amount of luminosity being however seen in the opposite quarter to that in which it had first appeared.

It is obvious what an important part luminosity of photographic plates induces, and how it augments sensitiveness, too feeble or too wholly invisible radiations for the human eye. After Roentgen's discovery, I showed in a notice: "Sur la production des silhouettes de M. Roentgen." (Comp. rendus de l'Académie, Seance du 24. fevrier, 1896) the non existence of any special radiation, or of the X rays, all in Roentgen's experience being explained by electric radiation, producing in a high degree luminiscence of the flesh, whilst the bones rest inaffected, and cast shadows on the plate, forming in such a way the silhouettes of the bones in the main, the gelatine of the plate being highly fluorescent, becomes thus likewise easily affected by the electric radiation and the active rays, accompanying every electric discharge, as the experiments made by me in the years 1886–1877 evidently proved. This is also the cause that dry collodion plates fail to give Roentgen silhouettes, whilst orthochromatic gelatine-plates, sensibilized by eosine, show great advantage against common gelatine dry plates.

I further showed that a single electric spark, falling on a silver coin placed on dark paper or cardboard enveloping an orthochromatic dry gelatine plate will give, under the action of the developer, an image of the coin, and also will behave likewise a dry collodion plate sensitized with chlorophylle.

It is luminosity of flesh, and luminosity of the material of the photographic layer, that produces the silhouettes of Roentgen, by no means a special radiation. The X rays do not exist at all. M. Bequerel has shown that a great deal of organic substances and anorganic substances, like uranium salts, uranium itself, bismuth and polonium radiate for a long time, even without exposition to light, actinic rays. Is not electric radiation always present in our atmosphere, the real source also of Becquerel-rays, as it is of Roentgen rays? I have shown that there is no volcanic eruption possible without formation of whirling motion in the atmosphere and in the gaseous and fluid matter, which forms the lavæ of volcanoes, and I produced experimentally the facsimile of a volcanic eruption by the rapid transformation of water inclosed in a hollow copper-cylinder by the transformation of electric motion, in caloric vibrations, the electro magnet resting cool, whilst the vapors of water explode, and the hot and heavy copper-cylinder is thrown to some meters distance from the electro magnet. It is obvious that volcanic erruptions must be accompanied by terrible electric phenomena, as those recently observed at the catastrophes of Martinique.

The photography of the crater of Mount Pelée would have revealed those invisible electric radiations, by means of luminiscent dry plates, long before the final catastrophe.

For every electric discharge may be detected by the whirling motion that it reveals in the medium through which it passes if there is suspended smoke in a gas or light powders are floating in it, every discharge produces a whirl, a small cyclone, condensing the light powders and arranging them in threads, imitating the curves of electric power lines.

A plate covered with a thin layer of soot, a smoked photographic plate over which passed the discharge of a Wrinshurst powerful electric machine, will show a white trace, jagged on its borders, and showing in its middle a dark trace of unremoved soot, passing from both poles and vanishing in the middle of the length of the white trace, whilst the trace itself is under a high power microscope marked with furrows of reddish brown curves, going to the right on one pole, to the left on the other pole, evidently representing helicoidal right and left handed curves, due to the opposite whirling motion on both poles and the dark trace in the middle of the white trace left by the discharge corresponds to the centre of the cyclone, "the eye of the cyclone."

In preparing wet collodion plates, colored with chlorophylle, I obtained a photograph of the sun, by means of a Browning reflecting telescope, March 5, 1875, at 10 A. M., during a heavy storm in Prague, with a nearly uncovered heaven, showing the white zones all round the sun of eliptic form, evidently the image of absorption in our atmosphere by cyclonic motion, producing condensations in its interior, and announcing its soon arrival from the high layers of the atmosphere, descending slowly to the surface of the earth, the photography thus gives means to foretell cyclones and, as their consequence, the earthquakes and volcanic eruptions. A wide field for the amateur photographers to study and useful applications for weather-forecasting! The photographs first were published in Memoires du Bureau Central Météorologique de France J. iv. année, 1880, and were shown at the International Congress of Meteorologists at Rome in 1879, together with a small Heinheil camera and the preparation of dry collodion-plates sensitive with electric solution of chlorophylle.

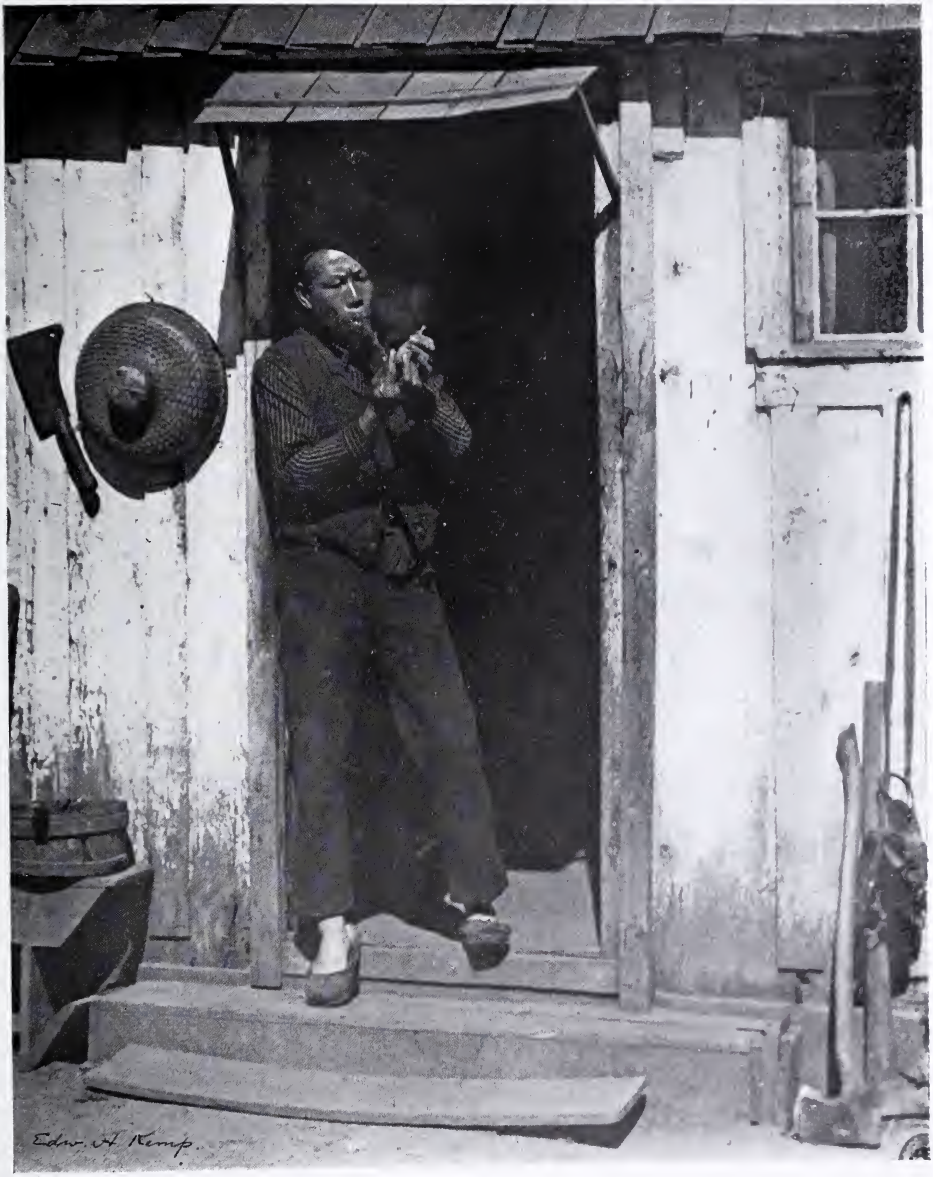
I could at the congress, photographing at Rome, with the small Heinheil camera, foretell the cyclone of April

23d, 1879, and that the members of the congress leaving Rome this day for Naples will, perhaps in consequence, assist to an eruption of Vesuvius. And so it was, arriving at Monte Cassino, the members of the Meteorological Observatory, on the top of Monte Cassino, awaiting the train on this station, announced to the incredulous members of the congress, while the horizon was quite cloudless, a sudden fall of one and a half inches of atmospheric pressure, and the dangers they met with in descending the mountain by a terrible cyclone then raging on the summit! Arriving at five and a half in the afternoon at Naples, we did not see more, as a very light smoking on the top of Mount Vesuvius, with a bright Italian sun shine on it and Naples, but at seven o'clock in the evening, after dinner, we were called to look on a sudden eruption of the mountain, with two flows of lava over the Atrium di Cavallo. At night, to the 24th of April, 1879, a terrible thunderstorm and hailstorm, destroying the plants in the parks and gardens of Naples and covering the streets of the town with a white layer of hail stones; at an ascension to the top of Vesuvius we could see still one torrent of lava bursting from the larger crater, vomiting also volcanic bombs and ashes, whilst the smaller one was ceasing in its activity, and I could ascend to its rim and look down into it, filled nearly to the brim with bubbling and whirling lava. On August 23 of 79, after Chr., a terrible eruption of Vesuvius destroyed Pompeii, Herculanum and Stabiæ, 1800 years afterwards, the 23d April, again an eruption of Vesuvius arrived, showing the decimal period of solar activity and the short period of maximal perturbation by solar induction, coinciding with the time of a half rotation of the sun on its axis.

For the interval of both eruptions is: $1879+114^d-79+235^d=67731^d,1$, or 5375 half rotations of the sun round its axis, with a difference of only $\frac{1}{11000}$ nearly of that interval, or $\frac{1}{110}$ per cent.

Quite similar results are shown by the intervals of other eruptions of that volcano and others. All these results were furnished by a patient study of solar photographs taken daily, and I must insist on the importance of such studies to be continued by scientists as well as by amateur photographers, on very different points of the earth-globe.

(Comptes rendus de la Académie, séance du 20 mai, '95.



THE COOLIE'S SOLACE.

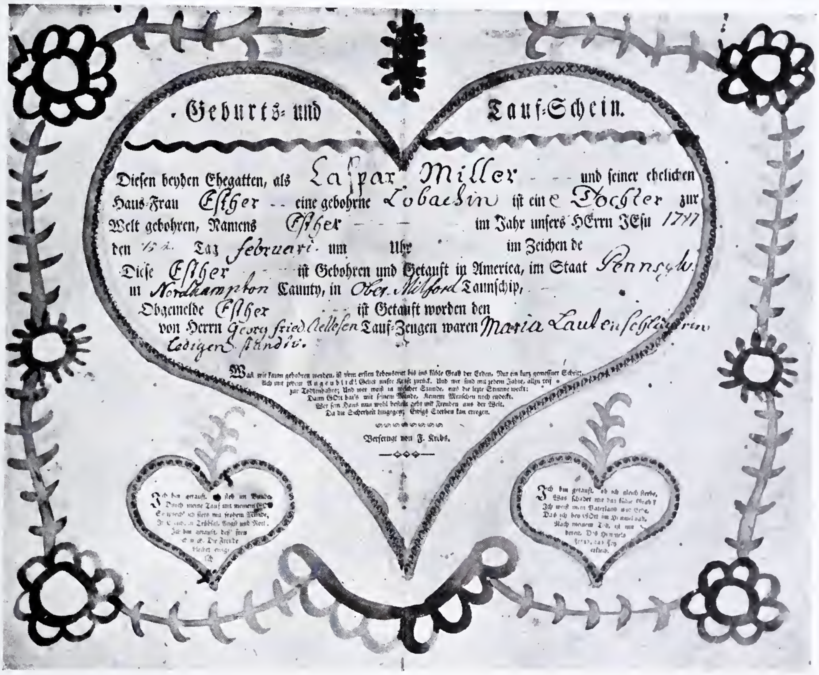
By Edw. H. Kemp.

PHOTO-RECORD WORK OF DOCUMENTS, ETC.

BY PROF. CHARLES F. HIMES, LL.D.

SOME of the applications of photography to record-work of most general interest, by Sir Benj. Stone, M.P., are the reproductions of historical documents, such as the warrant for the execution of Charles I., showing many erasures, the love letters of Henry VIII. to Anne Boleyn, and the treatise that earned for him the title Defender of the Faith, both from the Vatican archives. The most apparent use of such duplication is the preservation of the most essential historical facts of the original in case of its destruction or impairment by lapse of time. Such an application of photography, if possible many years ago, would have preserved to us the now almost illegible Declaration of Independence. Among other advantages would be the more general accessibility of such duplicates for comparison and study in public libraries and private collections. The intention of the writer is, however, to call attention of amateurs to this almost untouched field of purposeful, systematic photographic practice. Aside from documents of great historical value, there are many of less general importance, but still of great special interest accessible to almost every one. There are highly coveted family records, documents, portraits, etc , the possession of which is necessarily restricted to but a few of those interested, photographic fac-similes of which, next to the original, would be highly gratifying to all concerned. So there are documents, letters, prints, etc., illustrative of minor historical facts of a locality or a period, that would be highly appreciated by local historians. Another advantage of photographic fac-similes lies in the fact that in many cases reduced copies may have all the essential value of the original, while they may be far more convenient in size. As an illustration a specimen from the much talked of, often written about, but, in the absence of precise and trustworthy information, feebly-comprehended German regions of Pennsylvania. The Pennsylvania German Society, in the past ten years, has done much, by its voluminous and authentic publications, copiously illustrated by photographs, to illumine the part played by the Pennsylvania-German in the making of the Commonwealth. The Germans were of high average intelligence and among them were the most accomplished scholars of the continent. The only one capable of translating the Declaration of Independence into foreign languages was a Pennsylvania-German. Franklin was, perhaps, irritated even more than alarmed, that they would persist in having their German books and printing their more than half-a-dozen newspapers in their own language. The so-called Redemptioners, German ones at least, were sought after not only as tillers of the soil, but as teachers and clerks, by the English-speaking residents. More than half of the Germans of the Commonwealth were of German origin, good governors, too, under whose recommendation and persistent advocacy the free school system was established, and at the present time Governor Pennypacker, of whom all Pennsylvanians are justly proud, even those not of his political faith, may be claimed as a "Pennsylvania Dutchman" perhaps more than anything else. The specimen photograph herewith given is a blank for a family record of births, baptisms, etc. The point of the illustration is that the marginal decoration consists of representations of the seven ages of Shakespeare, showing that the publishers regarded the great German public as appreciative of something outside of their own literature.

The other specimen, more unique, is a Birth and Baptismal blank filled out in 1797. It may be of interest to note that a blank was left, in addition to those for the day and hour, for the "sign" under which the individual was born, which in this case, however, is not filled in.



Geburts- und Tauf-Schein.

Dieſen beyden Ehegatten, als Caſpar Miller – – und ſeiner ehelichen Haus-Frau Eſther – – eine gebohrne Lobachin iſt eine Tochter zur Welt gebohren, Namens Eſther – – – im Jahr unſers HErrn JEſu 1797 den 15te Tag februari um Uhr im Zeichen de

Dieſe Eſther – – iſt Gebohren und Getauft in America, im Staat Pennsylv. in Nordhampton Caunty, in Ober Milford Taunſchip,

Obgemelde Eſther – – iſt Getauft worden den von Herrn Georg fried. Dellesen Tauf-Zeugen waren Maria Laubenschlägerin ledigen ſtandes.

Was wir kaum gebohren werden, iſt vom erſten Lebenstritt bis ins kühle Grab der Erden, Nur ein kurz gemeſſner Schritt;
Ach mit jedem Augenblick! Gehet unſre Kraft zurück. Und wir ſind mit jedem Jahre, allzu reif
zur Todtenbahre; Und wer weiß in welcher Stunde, uns die letzte Stimme weckt:
Dann GOtt hat's mit ſeinem Munde, Keinem Menſchen noch entdeckt.
Wer ſein Haus nun wohl beſtellt geht mit Freuden aus der Welt.
Da die Sicherheit hingegen, Ewigs Sterben kan erregen.

Verfertigt von F. Krebs.

No. II.

No. I. is a family record blank, about 18 by 22 inches.* The abbreviation Pfr. of the original is used for pastor:

"BIRTH-AND BAPTISMAL CERTIFICATE,

of ....., who was a son of ......, a son of ..... His mother was a daughter of......, who was a son of. He had brothers and sisters as follows: ...... Was born the ...... in ...... County, ... Baptized by Pfr. ...... the ...... Baptismal witnesses ...... Confirmed in the Evangelical ...... Church by Pfr. ..... the ...... in the ..... Church ..... County, ... Married the ..... with ...... a daughter of ...... who was a son of ...... a son of ...... Her mother was ...... a daughter of ......, who was a son of ...... a son of ...... She had brothers and sisters as follows: .....

"She was born the ...... in ...... County ......, Baptized by Pfr. ..... the ..... Witnesses ......, Confirmed in the Evangelical ...... Church by Pfr. ...... the ...... in the ...... church, ... County ...... Had with the said ...... the following children."

Then follows the columns headed respectively: Names of Children; Born the; Baptized by Pfr.; Baptismal Witnesses; Confirmed in the Evangelical; Married to; Died. At the base of the left-hand column is a blank. "The above-named ——— died the ———;" and at the right-hand colmun, "His wife ——— died the ——— ———."

No. II.—At present the certificate, about 14 by 17 inches, is highly colored, but the original blank consisted of the three "hearts," inclosing the printed matter, defined by a neat, rather inconspicuous border. It has been modified at some time by overlaying the borders with a thin wash of green water-color, and adding the small sprays of green and the ornamental border, consisting of bright red flowers in the corners and in the middle of each side, connected by light green sprays. The heavy wavy line beneath the title has also been added in red.

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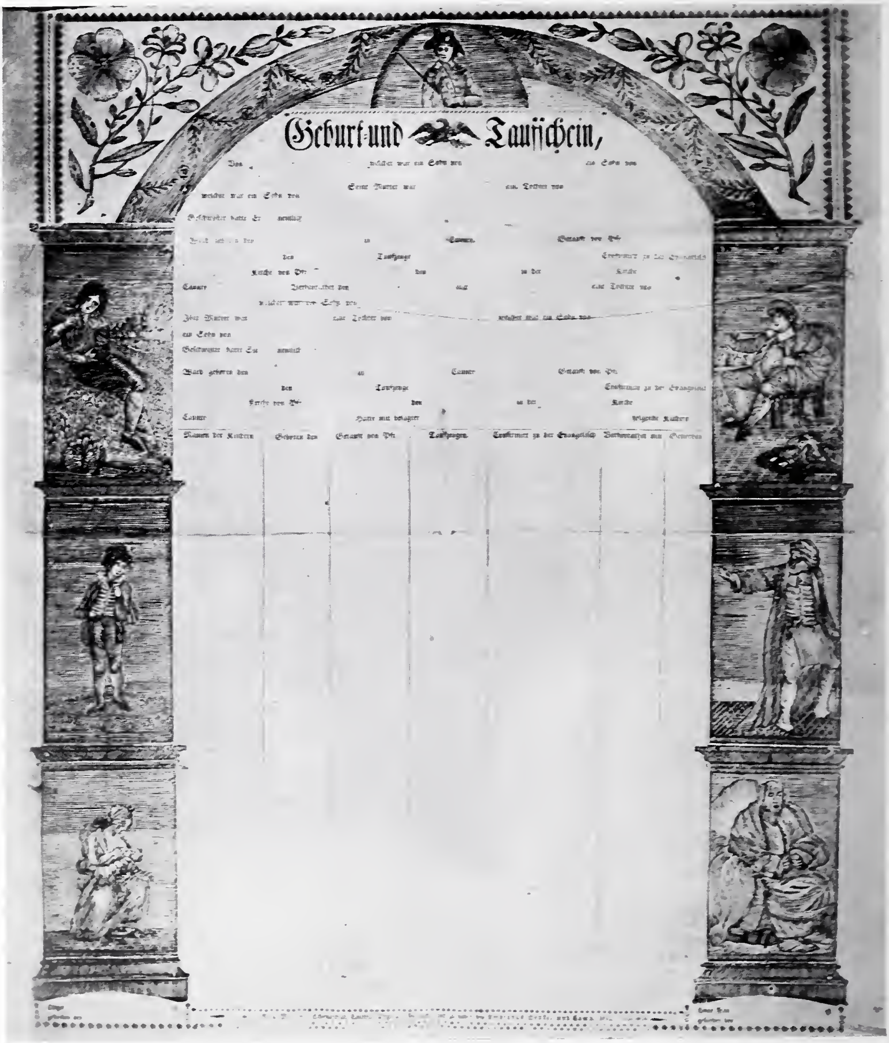
* The original from the Henkel Press is in possession of Rev. A. Stapleton, A. M.



Geburt-und Taufſchein,

No. I.

In the translation, parts filled in are in italics, and effort has been made to preserve some of the idiom. The Germanized orthography of local names is notable, and the termination "*in*," added to the patronymic for unmarried females, frequently met with.

The space left for the "sign" in which the child was born, it will be noticed is in this case left blank.

"BIRTH-AND BAPTISMAL CERTIFICATE

To the married couple, *Caspar Miller* and his wife by marriage *Esther*, born *Lobaesin*, a *daughter* was born into the world, named *Esther*, in the year of our Lord Jesus *1787*, the

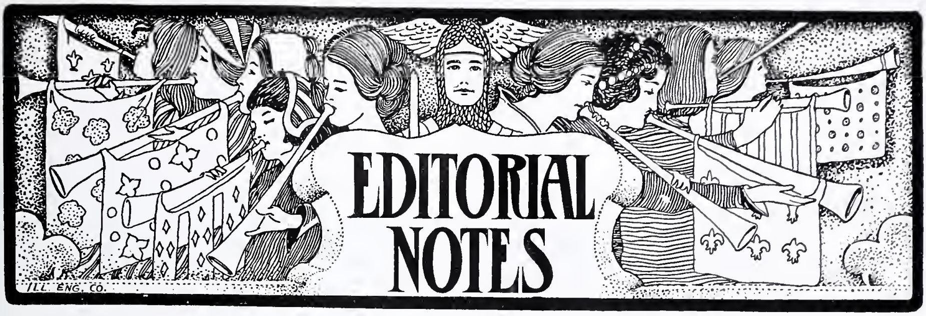
15th day of February, at ...... o'clock in the sign of the .....

This *Esther* was born and baptized in America, in the State of *Pennsylv.* in *North Hampton* County, in *Upper Milford* Township. The above named *Esther* was baptized the ......, by Mr. Georg Fried. Oellesen. Witnesses to baptism were *Maria Lauteuschlögerin, unmarried.*"

The other printed matter is made up of verses of a baptismal hymn

A PASSING REMARK. By H. P. Dahlen.

MISS BERTHA GALLAND. By B. J. Falk.



EDITORIAL NOTES

We wonder if the average photographer comprehends the very important part photography is playing in the world's work to-day. The newspapers and magazines depend upon the photographer for graphic and accurate illustrations of the various happenings throughout the world.

In the detection of crime and the subsequent conviction of the guilty, photography is a most valuable aid.

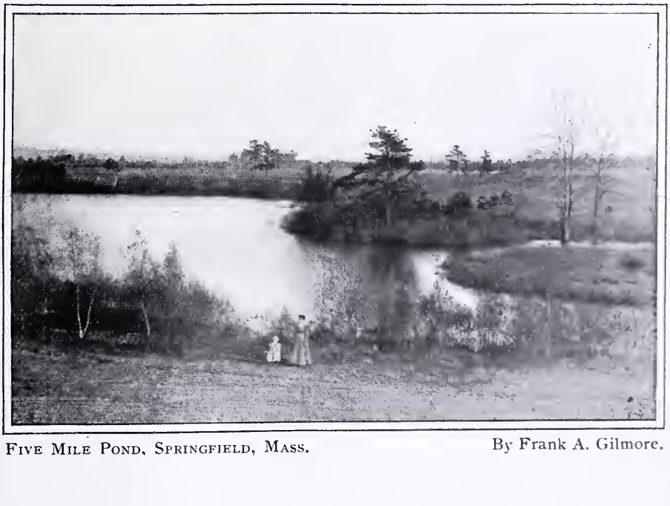
The famous Bertillon system of registering criminals could not have been brought to its present state of perfection without the camera ; in fact, this system would have been impracticable without the photographic negative and the rapid reproduction of large numbers of prints by the modern methods.

The wonderful eye of the camera, seeing so much more than the human eye, has long played an important part in litigation, detecting erasures, forgeries, and the presence or absence of certain colors. In fact, photography has proven so invaluable an aid that all large railroads and similar corporations employ an official photographer.

What an invaluable assistant the Roentgen rays have been to the surgeon in diagnosis, the location of foreign bodies embedded in bone, muscle or tissue, and thus reducing to a minimum the danger of an operation.

Many manufacturing concerns making heavy and cumbersome articles are enabled by means of the photograph to place their goods before their customers. In such cases a drawing or an engraving, no matter how carefully executed, would have been of little or no value.

It appears that practical color photography will soon be here, and with its advent the benefits and advantages to be derived from photography will be increased many hundredfold.



Five Mile Pond, Springfield, Mass. By Frank A. Gilmore.

A SUGGESTION.

BY FRANK M. SUTCLIFFE.

MOST people insure their property against fire—and would insure it against thieves if they could. Fire insurance is conducted on most unbusinesslike, slipshod methods, both on the part of the insured and the insurer.

A person goes to an insurance office and says he wishes to insure his household goods for £1,000. Neither he nor the insurance office takes the trouble of finding out whether the goods are worth the amount mentioned. If the whole of the insurer's goods are destroyed he is asked to make out a list of all the goods he has lost, with their approximate value. How are the insurance people, who have never been inside his house, to know whether he had goods worth a thousand pence? Or supposing the insurer to be strictly honest, how is he to know, if he simply guesses at the value of his household goods, whether he is not paying insurance premiums at a much greater sum than he need do.

It has lately been suggested that insurance offices might insure against theft, as well as fire, but unless some more precise method is adopted than is now practiced with fire insurance policies, it is to be feared that in the case of a claim being made it would be very doubtful whether the person making the claim could state the exact value, or anything near the value, of the article stolen.

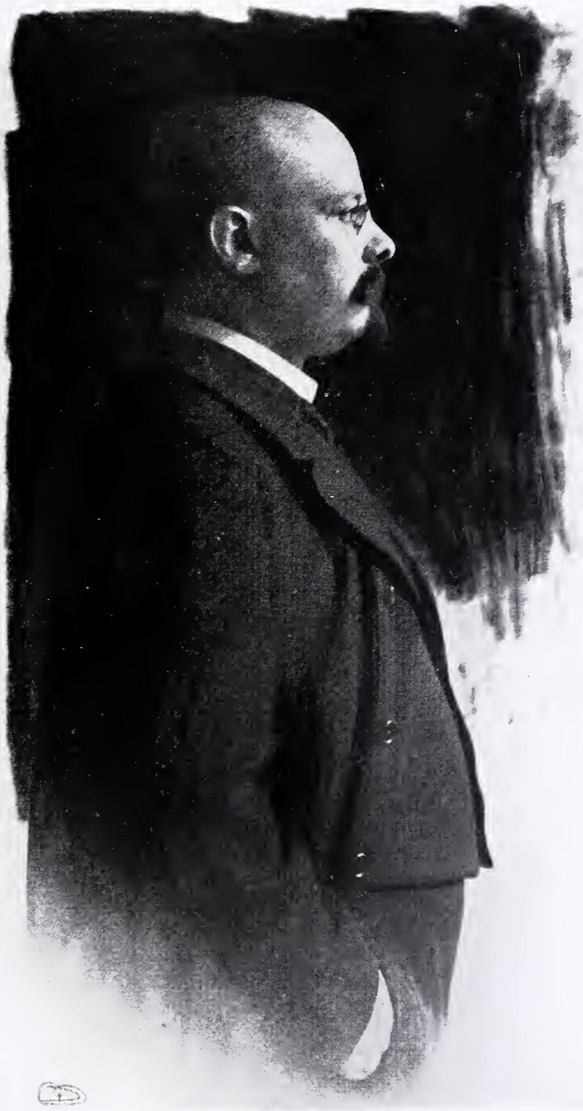
I would suggest that photography should be used by all who insure their property against either fire or thieves. If even the latter is not insured against, photography should help to make the recovery of stolen articles possible.

My suggestion is this. That everyone who owns anything of value should have it photographed, printed in carbon or platinum, and put into an album kept for the purpose. How many people are there who could remember or describe half their valuables, supposing a dishonest footman were to take it into his head to run off with any of them? To make assurance doubly sure, it would be advisable to deposit a duplicate album with either the insurance office or the insurer's banker or lawyer. Whether the owner of the valuables makes his own illustrated inventory or not will, of couse, depend on whether he can use a camera skilfully or not. Photographing only a silver candlestick, or a bit of Chelsea, is a different thing from taking a landscape. The lighting must be carefully considered.

Another advantage likely to accrue from having photographs made of articles of value is that forgeries are often detected by the camera which escapes the eye, while conversely many people may find that objects which they valued but little may turn out to be of great worth.

A further advantage would be that jewelry and plate would not take to themselves wings on the decease of their owner, as they do now. The relatives, too, of the deceased would hesitate before they helped themselves to things as keepsakes. Trustees would find their labor lightened, and those professional photographers who made a specialité of this kind of work would find it a much pleasanter means of livelihood than taking portraits. There would be none of that work which makes the business of portraiture such an endless drudgery—I mean retouching. There would be no proofs to submit and no resittings.—*Amateur Photographer.*

By G. Viruille.



PORTRAIT OF MR. D. By Pierre Dubreuil.

DEVELOPMENT OF DRY PLATES WITH UNKNOWN EXPOSURE.

BY X. Y.*

It frequently happens, that plates are taken to the professional photographer for development, with an unknown time of exposure, or even description of the object, through neglect of the party who has made the exposure. The development can, therefore, not be controlled, the results are doubtful, and many pictures are declared as being over or under-exposeed, and are thrown away as useless. The only remedy for this is a gradual development. From a so-called durable developer, such as Rodinal, Glycin, Edinol, etc., the following three developing baths are prepared. The first is the

Test Bath I. (weak developer),

which consists of 100 parts of pure water, and about 10 parts of active developer. An old and weak developer may be used, but it should not contain the least trace of bromide, iodide, or other additions. This bath serves, as the name signifies, to try the plate—what exposure it may have received. If no image appears in this bath from six to ten minutes, the developer is thoroughly washed out, and the plate is put as under-exposed into the below described fore-bath for under-exposure. If the image appears too quick during this time, almost sketched through, but foggy, it should, as over-exposed, not be put into a stronger bath, and it remains either in the test bath I., or a separate bath is used of 100 parts of water and 6 parts of fresh developer, with a few drops of bromide-ammonia solution 1.10. At normal exposure the image will appear in about ten minutes. The plate is then taken out and placed in the

Normal Developer II.,

consisting of 100 parts of water and 20 parts of fresh active developor, to which bath may at once be added a corresponding quantity of iodide or bromide. In this normal bath every correctly exposed plate can be developed, no matter what the subject may be. The contents of the developer have, of course, to be renewed from time to time. Next to the test bath, this bath has the greatest application, and the results are without any defect, but the developing process must not be interrupted.

Fore-bath for Under-exposure.

If no picture appears in the test bath within ten minutes, it is, after a good washing, put into the fore-bath for about ten minutes. This consists of 1,000 parts of pure water, 10 parts of chemically pure alcohol, 1 part citric acid, and 1 part soda thiosulphite (fixing soda). From this bath the plate is put into the

Strong Developer III. (instantaneous exposure).

It contains in 100 parts about 30 parts of active developer. Such plates can be developed in the strong bath, which it would not be possible to develop in weak baths. No further additions. Each iodide or bromide addition produce a heavy yellow or red fog. The *modus operandi* is the following :

The test bath, into which all plates are first put, should be in a pretty large tray, and hold from six to twelve cabinet size plates. Place the test bath, I., to the left of the dark-room lantern. The normal bath, II., should hold six to eight cabinet plates. The under-exposure—the fore-bath as well as the strong bath, III. hold two cabinet plates each. The normal baths should be in front of the lantern ; the strong bath to the right of same. The under-exposure, fore-bath and fixing-soda tray, the latter to hold six to eight cabinet plates, are to be placed on two separate sides. It is evident that this system, if properly executed, offers advantages not to be obtained by any other developing manipulations.

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* Translated by Henry Dietrich.

THE DESTRUCTION OF THE LATENT PICTURE BY METAL SALTS.

BY DR. R. A. REISS.*

THE destruction of the latent picture has been given a close study by prominent scientists like Colson, L. Vidal, Demole, etc. Colson proved, that dry writing ink, brought in contact with an exposed plate, will make the same insensible to the action of the developer by oxidation of the hydrogen of the gelatine, or that it destroys the latent picture. The latent picture is also destroyed by bichromate of potassium or chrome acid solution, to which a few drops of sulphuric acid have been added (Demole), by ammoniacal chloride of copper (Lumière), by chloride-bromide—or iodide water, in short, by substances or solutions, which easily pass off oxygen, chloride, bromide or iodide. Colson found also, that dry bi-chloride of mercury, put upon a paper and brought in contact with the film of an exposed plate for a few hours, will not only destroy the latent picture, but will also make the plate insensible to any further exposure.

The writer has shown that bichloride of mercury in aqueous solution will destroy the latent picture of the photographic plate, but that the plate, even if not so sensitive as before, can be used for another exposure. It was interesting to test the behavior of other salts towards the latent picture of the photographic plate, and if eventually after destruction of the first exposure impression, the plate could be used yet for a second exposure. The salts investigated were sulphate of copper, nitrate of uranium and sulphate of iron.

Sulphate of Copper. First test.—A plate is exposed (over-exposure) and is then bathed in the dark room for five minutes in a 7 per cent. sulphate of copper solution. The plate is then washed for three minutes in running water, and developed in hydrochinon-eikonogen developer. In spite of very long developing the highest lights appear only very faint. The rest of the plate is covered by a gray fog. *Second test:* A plate is exposed, and bathed for ten minutes in a 7 per cent. sulphate of copper solution. Wash for ten minutes in running water, cover one part of the plate with a piece of opaque paper, and expose the plate, still wet, for the second time. The time of the second exposure is about fifty to sixty times that of the first exposure. In the development the picture of the second exposure appears only. The part of the plate protected by the opaque paper, shows not the slightest trace of the first exposure. This, as well as the other part of the plate, are covered with a pretty pronounced gray fog.

Further tests gave the same results—sulphate of copper solution destroys therefore the latent picture of the photographic plate, but without making the same unfit for a second exposure. Of course, it has become less sensitive, and is covered contrary to the plates treated with bichloride of mercury, which work very clear after the second exposure, with a more or less strong gray fog.

Nitrate of Uranium.—First test. A plate, which had been exposed five weeks ago (over-exposed) is bathed for ten minutes in a 1 per cent. nitrate of uranium solution, washed for ten minutes in running water and exposed, still wet, in the camera. Time of second exposure: 100 times that of the first exposure. In the development with hydrochinon-eikonogen developer the second picture comes regularly, only a little foggy, while of the first exposure only the highest lights are visible very faintly.

Second test.—A new over-exposed plate is treated as above, however, the action of the nitrate of uranium bath is prolonged for thirty minutes. After washing, part of the plate is covered with an opaque paper, and the same is exposed still wet, for the second time. Time of the second exposure 70 to 80 times that of the first. In the development the image of the second exposure appears regularly and clear, and upon the part covered by the opaque paper, nothing of the first exposure can be seen, and the plate remains clear.

Further tests gave the same results.

By 1 per cent. nitrate of uranium solution the latent picture of the photographic plate is therefore destroyed, and the latter may be used for a second exposure. It is, of course, considerably less sensitive. To destroy the latent picture, the nitrate of uranium solution has to act for at least thirty minutes, and the pictures are never so covered as in the treatment with bichloride of mercury. The application of more concentrated solutions of nitrate of uranium is not advisable, as the gelatine is attacked.

Sulphate of iron.—The tests were analogous to the above mentioned with sulphate of copper and nitrate of uranium. In spite of a long action of a 10 per cent. sulphate of iron solution the latent picture could not be destroyed, although a small reduction was observable.

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* Translated by Henry Dietrich.

How the destruction of the latent picture takes place, the writer cannot say at present with any certainty, but he will try to determine by further tests.

* * *

CHROME PRINTING

THERE is an old fad which used to be practised when I was a boy at school, and by which we used to print pictures of leaves and other objects. We knew nothing of photography in those days, but we had an inkling of one of the basic stones of picture-printing of to-day—chrome-salt sensitizing. The "dodge" consisted in soaking or floating a piece of white paper in or on a solution of "orange stone," as we called it—bichromate of potash. All carbon, gum and process workers know how largely this salt in its action by light forms the fundamental flooring of their work, and there is no need for me here to go into the chemical actions that take place when sensitized tissues are exposed. To return to the primæval and historic simplicity of that long-ago schoolroom; although we were taught chemistry, and knew something about $K_2Cr_2O_7$, we never attempted to apply our knowledge to so absorbing a subject as the darkening of yellow paper. Spare note-paper or scraps of exercise books were soaked in bichromate of potassium solution, and dried in the cimmerian darkness of our desks.

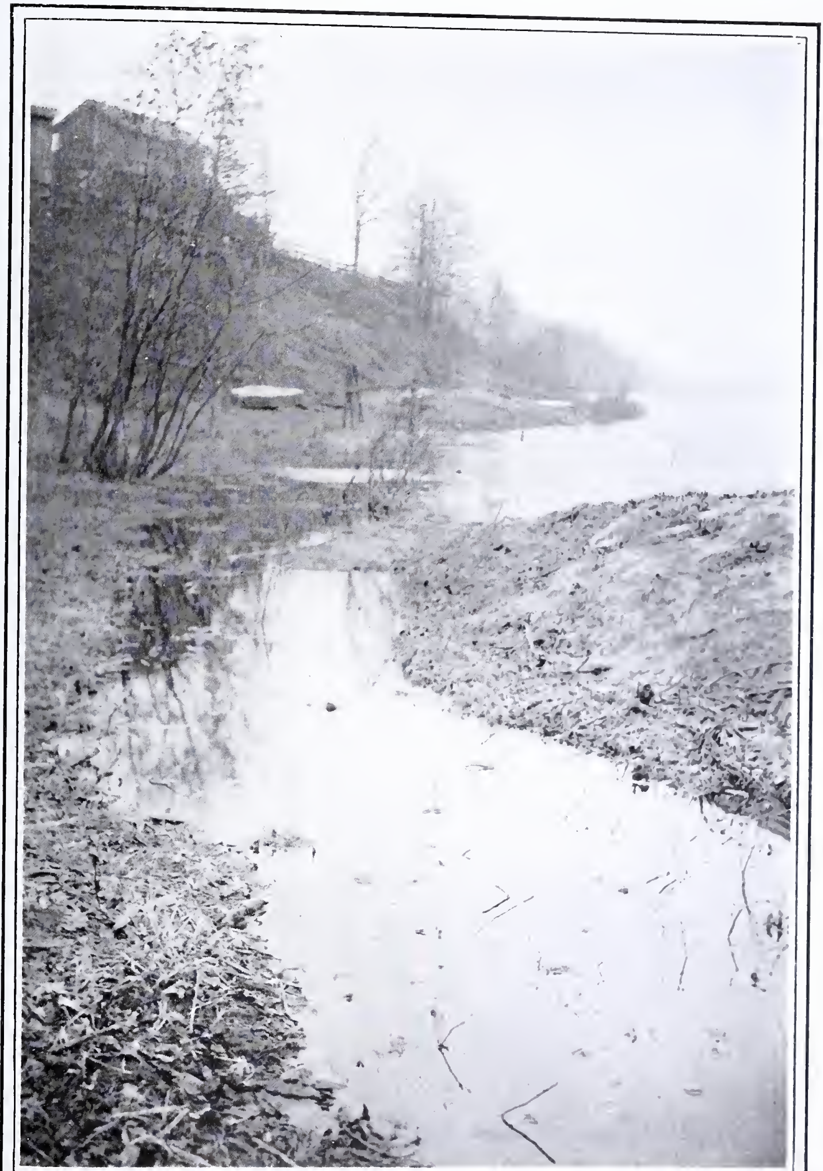
We were well aware that it was necessary to keep the soaked paper from the light until ready for the printing; so there it was stored, where among the heterogeneous appurtenances of that educational, and often evil-smelling, cubicle, the drippings of the sensitizer spread themselves with a lavishness and prodigality such as I can only recall with horror twenty years hence, when recalling the day upon which an inspection of desks took place, and the dramatically painful scenes that followed.

These dried sensitized papers were placed against glass, and between the paper and glass objects, as leaves. etc., we placed. These extemporized printing frames answered very well, and after exposure to the sun the prints were washed and dried.

But that is just the bare and skeleton basis. Any photographer, familiar with the theory of carbon or process formulæ, can start ahead and work out numberless new printing processes such as gum-bichromate, collo-bichromate, gum-mezzotints, chromo-acquatint, and so on. With pigment and the solution of this red chrome salt he can invent for himself many a printing process.

But of the bare and barren sensitized paper, such as the schoolboy used, what further can he do? He may act chemically upon it and tone. The finished print, washed, may be immesed in a soultion of ferrous sulphate, when we shall perceive that the dirty brown image will turn black; a lithographic black will be got by washing and transferring finally to tannic acid. Chloride of tin and haematoxylin will give us brownish purple. Lead nitrate and caustic potash will give us orange. The whole success lies in the careful washing. Of course, papers or fabrics printed in this way are permanent, and it is a useful way of dye- and printing fabrics for certain purposes of decoration.

The subject is a very interesting one, and I wish photographers would turn some of the attention they lavish on P. O. P., gaslight papers, and such like, to the study of experiments with bichromate and pigment, or bichromate alone as a sensitizer and printer. It is astonishing what results one can get from the simple material of a piece of paper and some bichromate.—*Amateur Photographer.*



GRAY DAY. J. H. Field.

ABOUT THE PROCEEDINGS IN BLACKENING THE SILVER PICTURES BLEACHED WITH MERCURY, BY SULPHATE OF SODA SOLUTION.

BY E. VALENTA.*

IN the publication of Dr. G. Hauberrisser, "about the nature of the silver picture, intensified with mercury and sulphite of soda," the author expresses the opinion, that the intensified picture, produced by mercury and after-treatment with sulphite of soda, consisted of metallic mercury, as generally accepted, was erroneous, and that it consists of chloride of silver and a compound of mercury and silver with sulphur, which is not determined yet.

Chapman Jones has probably made the closest studies in this respect, and he stated already in 1890 that by the action of sulphite of soda upon the silver picture bleached with mercury, black mercury was secreted, and that the chloride of silver is only partially dissolved. The fact, that the picture intensified with mercury would contain chloride of silver after blackening with sulphite of soda solution, was therefore known to Chapman Jones already in 1890.

Regarding the behavior of mercuro chloride towards sulphite of soda solutions, Hauberrisser says in the above-mentioned publication:

"Chloride of silver as well as chlorure of mercury give, each by itself with sulphite of soda, no dark coloration—they remain white."

That this is not correct with the mercuro chloride, can easily be proven by a test, by having freshly precipitated chlorure of mercury poured over with sulphite of soda solution. A blackening of the white precipitate will at once take place. Regarding the proceedings of this reaction, the general presumption, that a smooth reduction of the mercuro salt to mercury takes place, is opposed by Chapman Jones' acceptance, based upon the formation of mercury double salts by action of alkali sulphites upon mercuro chloride. Chapman Jones, regarding the transposition of mercuro chloride with sulphite of soda, set up the following equation:

$$2\ \mathrm{Hg\,Cl} + 2\ \mathrm{Na_2\,SO_3} = \mathrm{Hg\,Na_2\,(SO_3)_2} + \mathrm{Hg} + 2\ \mathrm{Na\,Cl}.$$

To prove the correctness of the same, I prepared pure mercuro chloride by precipitating a mercuro nitrate solution with muriatic acid and washing out of the white precipitate, which was treated with sulphite of soda solution in excess, whereby the blackening of the white precipitate took place at once under secretion of mercury. After some time the black-grey body which had formed was filtered, washed and investigated. It proved to be pure metallic mercury. The test of the filtrate from the blackening product and the quantitative determination of the mercury in the filtrate, as well as that of the mercury on the filter, confirmed fully the correctness of the result of Chapman Jones' equation, namely; the presence of mercury salts in the filtrate and the secretion of one-half of the mercury, which was present in the mercuro chloride in the metallic form. By reason of further experiments for the explanation of the proceedings in the blackening of the bleached silver picture, which I shall describe in the following, I believe that the reaction in question has two phases:

$$2\ \mathrm{Hg\,Cl} + \mathrm{Na_2\,SO_3} = \mathrm{Hg_2\,SO_3} + 2\mathrm{Na\,Cl} \quad \text{(I.)}$$

and

$$\mathrm{Hg_2\,SO_3} = \mathrm{Hg} + \mathrm{Hg\,SO_3} \quad \text{(II.)}$$

After Chapman Jones, if silver chloride is present besides mercuro chloride, the decomposition is expressed in the most simple form by the equation:

$$4\,\mathrm{Hg\,Ag\ Cl_2} = \mathrm{Ag_2} + \mathrm{Hg} + 2\ \mathrm{Ag\,Cl} + 3\ \mathrm{Hg\,Cl_2}$$

To prove the correctness of Hauberrisser, that a mercury-silver-sulphur compound was present in the intensified blackened silver picture, I produced a mixture of chloride of silver and chlorure of mercury, by precipitating a solution of molecular quantities of mercuro nitrate and nitrate of silver with muriatic acid. The same was washed carefully and then treated with a little more sulphite of soda in aqueous solution, as calculated in above equation, until a uniform blackening had taken place. The grey-black body obtained in this way was well washed in the filter until the water, with sulphur ammonia, gave no more dark coloration.

The black-grey powder was then dried and investigated. The test showed the presence of chloride, silver and mercury. To prove the presence or absence of sulplur, about 1 gram of the powder was treated carefully with fuming nitric acid, after completed action mixed with muriatic acid, to transpose the nitrate of silver nto chloride of silver, diluted with water, the precipitated chloride of silver filtered and then washed. The filtrate of the chloride of silver was mixed with barium-chloride, but no precipitate formed. The evaporated liquid left no white precipitate (which is insoluble in diluted muriatic acid), the product of the treatment of mercuro-silver-chloride with sulphite of soda contains therefore no sulphur, and Hanberrisser's supposition, that a compound of mercury and silver with sulphur was contained in the blackening product, is incorrect. But the presence of chloride of silver, by treatment of the blackening product with ammonia and acidifying of the filtrate with nitric acid, could easily be proven and the quantity determined.

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*Translated by Henry Dietrich.

In addition to this investigation, the following test was made: a quantity of the moist $Hg\ Ag_2\ Cl_2$ precipitate was treated with a strong excess of sulphite of soda (in 10 per cent. solution) whereby a quick blackening took place, and gradually all chloride of silver dissolved. In the filtrate sulphite of mercury, chloride of soda and silver sulphite could be proven. The well washed and dried blackening products represented a grey-black powder. It contained likewise no sulphur, and consisted only of silver and mercury in metallic form. The quantity found was

Silver	67.47 per cent.
Mercury	32.03 "
	99.50

Taking all the results together, the proceedings of the reaction by action of sulphite of soda upon the silver picture bleached with mercury, may be explained in the following way: The mercuro chloride, under formation of mercuro sulphite, is changed after equation I. The mercuro sulphite which originated, decomposes by separating from Hg and formation of mercuro sulphite after equation II, otherwise it transposes with the chloride of silver and reduces the same under formation of mercuro chloride and mercuro sulphite to metallic silver:

$$Hg_2\ SO_3 + Ag\ Cl = Ag + Hg\ Cl + Hg\ SO_3 \qquad (III.)$$

At sufficient long action of the sulphite of soda solution and excess of sulphite, all Ag Cl and Hg Cl is transposed, a fixing process taking place after the equation:

$$2\ Ag\ Cl + Na_2\ SO_3 + XNa_2\ SO_3 = Ag_2\ SO_3\ XNa_2\ SO_3 + 2\ Na\ Cl \qquad (IV.)$$

and the picture contains then only more silver and mercury. But as the picture is left in the sulphite solution only long enough, until the glass side has become brown, the blackened washed negative might still contain some chloride of silver. At all events, the blackening is now prolific and constant; if a developing solution, for instance, metol-sulphite, is used in place of the sulphite of soda, as in this case, all Ag Cl is redcced, and th2refore cannot give any chloride of silver, as sulphite double salt in solution.

Taking now the results of my experiments together, it will show:

1. That by treatment of $Hg\ Ag\ Cl_2$ with sulphite of soda solution, the grey-black body, which originated, and by which, with mercury bleached and with sulphite of soda blackened silver pictures represent the picture, contains no connections of the silver or mercury with sulphur.

2. It contains, according to the duration of action and concentration of the sulphite solutions applied for blackening, changing quantities of chloride of silver, metallic silver and mercury.

3. At sufficiently long action of sulphite of soda in excess in corresponding concentrated solution all chloride of silver is dissolved, and it remains a mixture of mercury and silver.

THE CHILD AND THE BUTTERFLY. By J. M. Elliot.

INTENSIFICATION AND TONING OF PICTURES UPON BROMIDE OF SILVER PAPER.

BY PROF. R. NAMIAS*

IT happens quite frequently, that pictures are obtained upon bromide of silver paper, which lack strength or show a disagreeable color. In such cases the following methods may furnish good results:

1. Intensification in Conjunction with Gold Toning.—Treat the picture with a 1 to 2 per cent. solution of chloride of mercury. In consequence of the formation of chlorure of mercury and chloride of silver, the picture becomes white. Wash the same and put it into the following bath:

Sulpho-cyanide of Ammonium........	2 g.
One per cent. Chloride of Gold Solution..........	10 c.cm.
Water...............	100 c.cm.

In this bath the picture will gradually become black and will finally be of a black violet coloration, gaining in strength at the same time. It seems that the chlorure of mercury reacts upon the sulpho-cyanide of ammonium in the picture that becomes white, and furnishes sulpho-cyanure of mercury, and that this develops then the reduction of the gold salt by causing the gold to precipitate upon the picture.

2. Intensification in Conjunction with Platinum Toning.—The picture is made white in the chloride of mercury bath, as above mentioned. After washing it is blackened with any developer. I prefer diluted hydro chinon—and metol developer. The picture gets a handsome deep black color and gains considerably in strength. By employing ammonia for the blackening of the bromide of silver picture, a black coloration is obtained, passing toward yellow and being very disagreeable After treating with the developer, further manipulations might be done away with, however; much more durable pictures and a still better black platinum print are abtained, if a platinum toning is had in the following bath:

Potassium Chlorure of Platinum...	1 g.
Oxalic Acid....	10 g.
Water..............................	1,000 c.cm.

I would remark here, that the attempt to change a bad greenish picture, by toning the same in ordinary bromide of silver, will not be successful. The silver obtained by reduction of the bromide of silver does not act upon the platinum salt or at least very faintly, and the same way upon the gold salt, and neither the gold toning nor the platinum toning are successful. Of a quite different behavior are the black reduction compounds, which form, if chloride of silver salts are exposed to light. The silver, which can be reduced from the silver chloride by means of a developer, has a greater tendency to act upon the gold—and platinum salts and we know that the picture obtained by development of the chloride of silver plate can suffer *considerable* color changes by the gold toning. In the picture obtained by treatment with chloride of mercuary and the subsequent blackening by the developer, the black picture, which is obtained, consists of silver and mercury. Particularily the mercury has the property to cause the platinum to precipitate, and thus taking its place in the compound. We have, therefore, finally a picture, which, at least to the greater part, is formed of silver and platinum, and the intensity increases considerably. This method of toning can therefore not be employed for pictures which possess already a correct intensity. In this case it would be necessary, to remove the silver after toning, at least to some extent, by a solvent, as for instance hyposulphite or red prussiate of potassium. If all the silver is removed, a picture is obtained, consisting only of platinum.

3. Intensification and Colored Toning.—Brown and red copper toning are at present frequently applied for bromide of silver pictures. With this toning, applied only for a moment, a very agreeable brown tone can be given to the green picture. The copper toning, however, is distinguished from the result of uranium toning in such a way that the intensity of the picture does not increase in a perceptible manner. I have determined, that pictures upon bromide of silver paper, which do not possess the correct intensity, can be saved and a brown red tone can be given to them by intensifying them by the chloride of mercury method and applying as second bath the following mixture:

Ammonia............	100 c.cm.
Crystalized Sulphite of Soda.......	100 g.
Water	1,000 c.cm.

The pictures so intensified are then toned with ferrocyanure of copper by one or the other of the above-mentioned methods. The black mercury compound, which forms, is also suitable, like silver, to reduce the ferricyanide to ferrocyanide, bringing then the red compound (copper ferrocyanure) to precipitate upon the picture. I apply successfully another bath, which I have tried for copper toning and which furnishes very fine colors with a handsome violet tone. It tones also quicker than the others. The bath consists of

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*Translated by Henry Dietrich.

Sulphate of Copper............ ..	10 g.
Seigneitte Salt...........	100 g.
Red Prussiate of Potassium,.......	5 g.
Water.................	1,000 c.cm.

The liquid which is obtained, is a little cloudy because the ferricyanide of copper does not dissolve completely in the alkali solution of tartaric salt. A very small addition of ammonia will clear the liquid.

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ACID GOLD-TONING BATHS WITH THIOCARBAMID ADDITIONS.

BY E. VALENTA.*

ACID gold-toning baths, which contain, besides chloride of gold, a free acid, and eventually, to transmit the soluble silver salt contained in the prints, into chloride, chloride of natrium, have the good property, as well known, to be durable for a long time. Such toning baths are much more durable than neutral ones, and particularly as alkali toning baths, but they do not tone as well as the latter, give red-brown tones and attack the delicate half-tones of the print, when free acid is present.

An acid gold-toning bath which combines the property of such baths, to be durable, with a good toning capacity, and which furnishes handsome prints, has been described by A. Helain. The same consists of table salt, with tartaric acid acedified chloride of gold solution, containing thiocarbamid (sulphuric acid). This gold-toning bath represents a colorless solution and possesses not only a good toning capacity, but tones also very uniformly, and gives no discolored half-tones. It has the advantage of the Rhodan gold baths, that it does not attack the delicate half-tones and that it is not poisonous.

The toning is based upon the circumstance, that chloride of gold with sulpho-carbamid, by excess of the latter, gives a colorless, well characterized auro salt of the formula $(C\,S\,N_2\,H_4)_2$—Au Cl, which salt possesses the above properties, as tests with pure aqueous solutions of the same have shown.

The process of transposing the silver with the thiocarbamid chloride of gold can be expressed by the following equation:

$$(CSN_2\,H_4)_2\,Au\,Cl + Ag = (CSN_2\,H_4)_2\,Ag\,Cl + Au.$$

Additions of organic acids, and particularly tartaric acid or citric acid, promote the toning essentially. For celloidin paper prints, citric acid acts better than tartaric acid, as proven by my experiments. It promotes toning, and has the effect that the whites of the picture remain very clear.

The preparation of such toning baths is very simple: 1 gram thiocarbamid is dissolved in 50 c.cm. of water; to 25 c.cm. of a 1 per cent. chloride of gold solution is then added of above solution, until the precipitate which formed in the beginning, has dissolved again, which requires 14 to 15 c.cm., and then is added 0.5 grams citric acid (or tartaric acid), whereby a completely clear, colorless liquid is obtained, which, with water, is brought to 1 litre, and is then mixed with 10 grams chloride of natrium. The prints to be toned are washed and put into the bath, in which they will tone rapidly. If the desired tone has been reached, wash and fix in a 10 per cent. fixing soda solution.

The durability of the thiocarbamid gold-toning bath is, as far as can be judged by present tests, very satisfactory. The price of these toning baths, aside from the gold preparation, is very moderate, notwithstanding the high price of thiocarbamid, as only very small quantities are applied, and they also have the advantage of the Rhodan gold-toning bath not to be poisonous. For this reason the thiocarbamid toning bath might displace the Rhodan gold-toning baths before long, and be preferred by all who work with emulsion printing papers.

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* Translated by Henry Dietrich.

MONTCLAIR CAMERA CLUB.

THE opening exhibition of the Montclair Camera Club was held in their new headquarters in the Crane Building, Montclair, N. J , Saturday afternoon and evening, May 9. It was largely attended by the people of Montclair, and proved an interesting and successful event. The rooms were tastefully decorated with palms and potted plants, and the guests were received by the ladies of the club, who also served refreshments.

The present quarters of the Camera Club, while not so large as those of some clubs in larger cities, are as complete in every particular. They are as well equipped with the most modern apparatus and accessories as the largest and strongest camera club in the land. The rooms are well worth the inspection of any one interested in photography, for they combine many features not yet adopted by many of the older camera organizations.

The exhibition room was naturally the place which proved most attractive to the visitors. It contained the framed pictures of more than 100 examples of the latest and best achievements of the photographic art. These were the work of more than a score of photographers, all of them members of the Montclair Camera Club. The exhibition as a whole presented a very high average of merit, with a bare half dozen photographs, in all, that could be said to be below the high standard of excellence established by this club.

Mr. William H. Crocker presented the largest single exhibit. It comprised seventeen frames, including figure pictures, portraits, designs for book covers, landscapes and genre pictures, representing the various modern methods employed by the most advanced photographers in this country and Europe, and equaling the work of the best, both in choice of subject and in treatment.

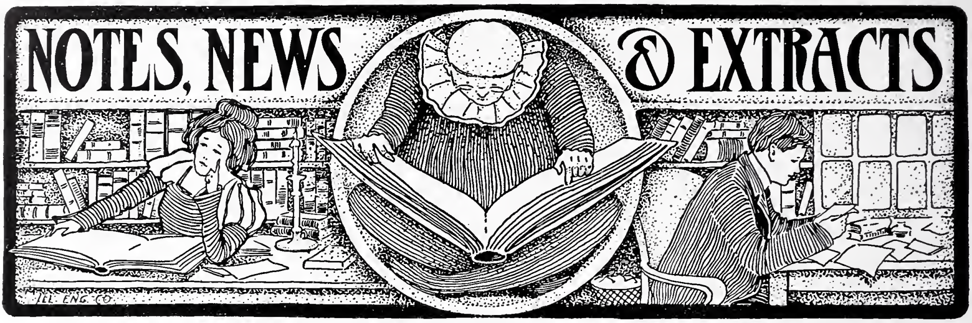
Mrs. E. C. Cooper exhibited about a dozen portraits and portrait studies, all of which showed to a conspicuous degree her training as an artist and skill as a photographer. The pictures of her little son and of her father, Mr. Thomas Ball, the distinguished sculptor, were particularly admired.

Dr. Morgan W. Ayres, President of the club, exhibited a number of interesting Western landscapes and a very striking reproduction of a painting by L. C. Earle, of Henry Fenn, both prominent artists residing in Montclair. Some carbon prints by Dr. Henry Power were also admired. There were excellent landscapes by Randall Spaulding, J. Stewart Gibson, H. E. A. Wolfe and Thomas S. Doremus. The latter's portraits were also among the notable exhibits.

Mr. Charles C. Stanley, Henry Lang, William B. Smith, and both Mr. and Mrs. I. Seymour Crane also made interesting exhibits.

There was an excellent picture of Trinity Presbyterian Church by Miss Bessie M. Ferris; some "Scenes From the West" by M. K. Mulford; a good picture of Saranac Lake by Dr Halsey; a capital winter picture by C. R. Pratt. and several well executed gum prints by James W. Fleming. Others who showed interesting examples of modern photography were Arthur Halier, C. R. Jacobus and H. J. Redfield.

The present officers of the club are: President, Morgan Wilicox Ayres, M. D.; Vice-President, Levi W. Halsey, M. D.; Secretary, William B. Smith; Treasurer, Henry Lang; Chairman Finance Committee, J R. Rand; Chairman House Committee, Thomas S. Doremns; Chairman Lantern Slide Committee, J. Stewart Gibson; Chairman Library Committee, Charles C. Stanley; Chairman Membership Committee, H. Messenger Ayres, M. D. They and their colleagues are all to be congratulated on the successful opening exhibition in their attractive new club rooms.



A Use for Fogged Plates.—Immerse for a few minutes in:

Potassium bromide	1 oz.
Potassium iodide	1 dram.
Warm water	20 oz.

Dissolve and add:

Hydrochloric acid	2 oz.
Potassium bichromate	1 oz.
When dissolved, add water to make in all	80 oz.

Wash the plates well after treatment. They may be used for any kind of work, provided slowness is no detriment. They require about ten minutes the usual exposure.

On Mounting.—For mounting prints on the thin boards of art shades now so much the fashion, there is nothing better than one daub of stiff paste, such as can be purchased from the dealer's, at each corner; but for those who must mount the whole print, the best material (says a writer in the *Bateley News*) is a mountant made as follows;

Cheap sheet gelatine	4 ozs.
Water	16 ozs.
Methylated spirit	5 ozs.
Glycerine	1 oz.

The gelatine is soaked in a part of the water until thoroughly swollen, the remainder of the water then added, and the whole rendered fluid by standing in boiling water. The methylated spirit is next added in a thin stream, with constant stirring, and, lastly, the glycerine is poured in. To use this mountant, a piece of ground glass is rinsed in hot water, drained, and brushed over with the hot mountant. The print is laid face up on the glass, rubbed down for a moment with a piece of clean paper, removed, and laid on the mount. The print sticks firmly by this plan, and there is the least possible cockling of the mount.

By the way, when so much is being done in supplying mounts of effective colors, it is well to be on one's guard to see that the mount is chemically inert, or the worker must pay for his artistic effect by the speedy fading of his print. A reliable test for the suitability of a mount for silver prints is as follows: Lay a piece of paraffin paper or thin celluloid over half the mount, and on this again an albumen print (finished, but unmounted). Back with a piece of pure filter-paper and several thicknesses of moistened blotting-paper, put the whole in a printing-frame between glasses (to keep in moisture), and put in a warm place for two or three weeks. If the half of the print in contact with the mount deteriorates before the other, the mount is defective:

Harsh Under-Exposed Negatives.—We have most of us something like the above in our possession, unless, having tried reduction, and being still unable to get a decent print, we have given away to despair, and added those negatives to the dust heap. First suggested by Dr. Eder, nearly twenty years ago, the following method of recovering a very harsh negative has been quoted occasionally since, but, being recently brought to my notice, I give it here, believing it to be less known and less used than it deserves. The finished negative, after fixation and thorough washing, is soaked in the following solution:

Potassium bichromate	1 part.
Hydrochloric acid	3 parts.
Alum	5 parts.
Water	100 parts.

In this the negative turns white, and care should be taken that it bleaches thoroughly both back and front. Next, the negative must be most thoroughly washed, and is then redeveloped with an old hydroquinone or ferrous-oxalate developer. This is the important point in this process, for development must only be carried on till the details in the shadows are fully developed, and not till the high lights are developed right through, or, in the latter case, no improvement will be seen. As soon, then, as the details in the shadows and half-tones are developed, the plate may be rinsed and refixed.

There being still some undeveloped chloride of silver at the back of the dense parts, this is fixed out, and the negative will be found by no means so hard as before.

It may be said that this process intensifies the shadows, though, strictly speaking, this is only true when the bleached plate is exposed to daylight for some time and then developed, the chloride of silver image then being converted into a more non-actinic character than previously. M.

A New Intensifier.—Herr Ebert described at a recent meeting of the Vienna Photographic Society some interesting phenomena, which he had observed when experimenting with the new process of katatypy ; and, whilst we are so far unaware of anyone in England who has experimented with this process, a brief note of Ebert's results may lead others to note their experiences. As is well known, the first step in this process is the flooding of a negative with an ethereal solution of hydrogen peroxide ; now Ebert noticed that when this was done, the negative was intensified, and that a precipitate was deposited, which gave a sensible relief, and the oftener the ethereal solution was applied the greater this relief. Now, as nothing but the ethereal solution was applied, Ebert assumes that the metallic silver undergoes a partial oxidati n, or, at least, some chemical change ; and this view is supported by the fact that no sooner is such an intensified negative immersed in water than the relief disappears, and bubbles of oxygen are given off. It is obvious that there is here an extremely simple method of intensification which is not poisonous, and in which, if desired, the original intensity of the negative can at once be restored by mere immersion in water ; the only disadvantages are that care must be taken to ensure absolute evenness of the flow of ethereal peroxide, and this must be done quickly, or else uneven patches are formed ; or, if too long over it, oxygen bubbles are given off, and blisters are formed. The intensification given by this method is said to be equal to that given by mercury and ammonia or bromide of copper, and it can be repeated more than once. When transparencies on chlorobromide plates were treated in this way, not only were they intensified, but beautiful sepia-brown images were obtained. Herr Ebert suggests the advisability of varnishing plates thus treated, as they are extremely sensitive to damp. Another curious phenomena observed was that bromide paper post-cards treated with the ethereal solution of peroxide were toned to a warm sepia, and by repeated application the color became even yellowish red ; and, further, that these warm-toned images could be developed with various developers, and still finer and warmer tones obtained.

Ohio-Michigan Convention.—The Ohio-Michigan Convention which meets in Saginaw, July 22d to 24th, promises to be not only a very delightful outing, but also a very profitable experience.

Arrangements are being made to have practical demonstrations in the various branches of the photographic profession. A first-class operating room has been secured, in order that demonstrations may be made under the skylight, and as the officers desire that this meeting shall be of benefit and profit to every member, we would suggest that those who contemplate attending and desire information on any branch of the profession, write the officers and suggest any subject they would like considered.

Photographers should not lose sight of the fact that the opportunity for profitable instruction is very much greater at the State Conventions than at the larger gathering, as the attendance is smaller, making this possible. And also further remember the great importance of supporting the Association, which is always in our midst.

While it is the plan of the Ohio-Michigan Association to meet alternately between Ohio and Michigan, it will never be held so far away as to keep members of smaller means from attending and deriving the benefits of such a Convention.

It is a well established fact that the men who have attended and taken an interest in conventions are the men who are enjoying a steady increase, not only in the quality of their work, but also in the advancement of their business.

In order to get the most good out of a convention, the first essential is to decide to make an exhibit of your work. The preparation of this exhibition in itself is an education, as it has a tendency to draw a man out to the best that is in him. Then when you see your work along side the work of others, you are in a position to judge of the comparison, and let me say right here the man who will do this, no matter how poor his work may be, will be sure to benefit by it and will go away from the Convention glad he made an exhibit, and will be sure to make future progress in his work, and what is more he will be admired by everyone at the Convention for his effort.

It is the man who comes to the Convention without his work, or if he has any pictures with him keeps them in his pocket and does not show them only off in a corner, who goes away from a convention dissatisfied.

This will be the first regular Ohio-Michigan Convention held in Michigan, and Saginaw being one of Michigan's best cities, the photographers living in Ohio and Michigan, as well as the adjoining territory cannot afford to miss this treat.

D. D. Spellman,
Treasurer of Ohio-Michigan Convention.

Excursion Rates to the Ohio-Michigan Photographers' Convention.—A rate of one and one-third fare on the certificate plan from all points in Ohio and Michigan has been secured for the Convention of the Photographers' Association of Ohio and Michigan, to be held July 22-23-24, 1903, in Saginaw.

Please observe the following directions :

Tickets for the full fare for the going trip may be secured on and after July 17th, up to and including July 23d. Tickets good returning from July 23 to July 28th inclusive.

Be sure, when purchasing your ticket going, that you call for a certificate. Do not make the mistake of asking for a receipt Call at the station in good time for the agent to make out the certificate.

Certificates are not kept at all stations. If you inquire of your agent you will find if he can supply them, and if not, he will inform you of the nearest station where certificates can be had.

You will purchase ticket to that place, and there get your certificate and ticket to Saginaw.

Upon your arrival at the Convention, deposit your certificate with the Treasurer, D.D.Spellman, who will have it signed by the transportation agent and return it to you. A fee of 25c. is charged by the agent for signing the certificate.

It has been arranged that the agent of the transportation company will be in attendance on July 23d to validate the certificates. Only on this date will the certificates be signed.

When you wish to return, present your certificate at the station and you will be furnished a ticket at one-third fare home.

All steamboat lines will concur in the above rate.

Parties in Ohio desiring can buy their tickets via steamer from Toledo, Sandusky or Cleveland to Detroit and thence by rail to Saginaw.

The round trip, all rail rates as follows :

From Detroit to Saginaw will be $3.90.

From Grand Rapids to Saginaw will be $4.55.

From St. Joseph to Saginaw will be $6.50.

From Marquette to Saginaw will be $16.05.

From Dayton, Ohio, to Saginaw will be $11.15.

From Cincinnati, Ohio, to Saginaw will be $13.40.

From Columbus, Ohio, to Saginaw will be $10.35.

From Toledo to Saginaw will be $5.40.

From Cleveland, Ohio, to Saginaw will be $9.75.

Boat rates :

From Toledo, via D. & C. Line to Detroit and rail to Saginaw, $5.25.

From Cleveland, via D. & C. Line to Detroit and rail to Saginaw, $6.25.

From Sandusky via Steamer Kirby to Detroit, and rail to Saginaw, $5.70.

From Buffalo, via D. & B. Line steamers to Detroit and rail to Saginaw, $8.90.

The Summer Plans for the F. F. Proctor circuit of theatres have been practically completed, and unless all present signs fail, the outlook is a brilliant one, promising success for the management, steady employment for the large band of actors in Mr. Proctor's employ, and—best of all—a gay season of highly entertaining shows for the public at large. Later on, there will be a revival of several of last season's biggest hits, and then there will be produced, in quick succession, half a dozen gay pieces never before seen in New York. All those productions will be as carefully made as though the season were at its height, for it is never Mr. Proctor's idea to curtail expenses, be the season early or late. At his Twenty-third Street Theatre the plan of presenting all vaudeville shows will be continued throughout the summer, the bills being made up with especial reference to the warm weather. At his One Hundred and Twenty-fifth Street house, the favorite stock company will continue its excellent work, strengthened immeasurably by the reappearance of Miss Adelaide Keim, who resumes her stage work after a much needed period of rest.

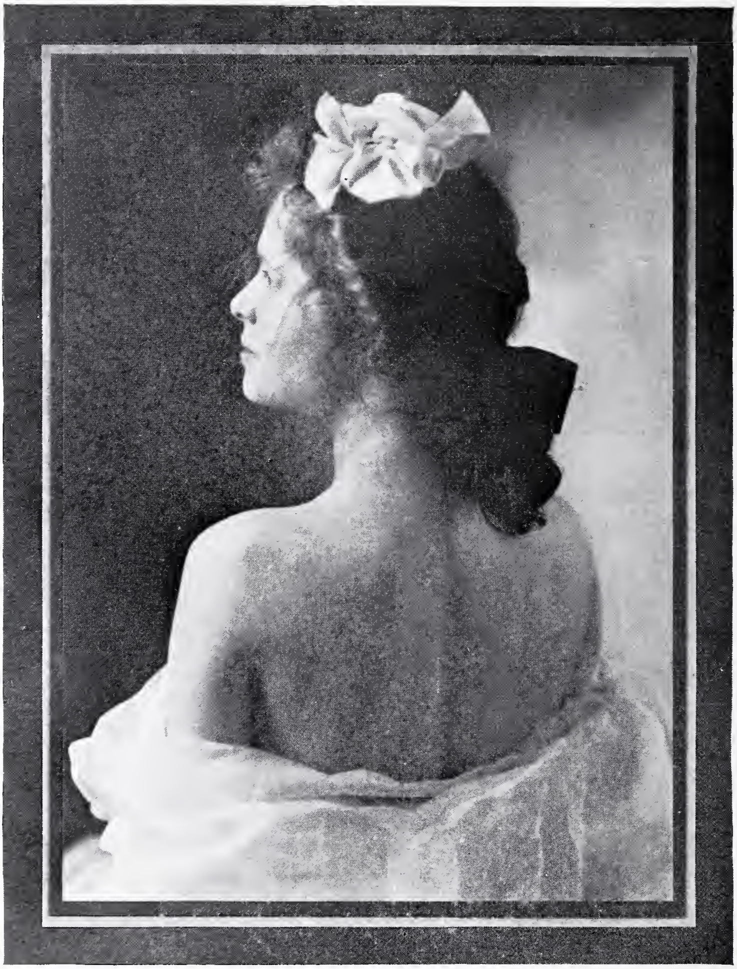
About a year ago, Mr. F. F. Proctor issued in a very handsome pamphlet form a souvenir of the Proctor stock companies at his various houses. The first edition of 20,000 copies was very quickly exhausted, and a second one of 10,000 copies was then rushed through the presses. It is gratifying proof of the popularity of the Proctor players that this second edition has since been so largely in demand that only about 500 copies remain. These will be sent upon application to any reader of this paper who will enclose a two-cent stamp with his letter. The brochure is elegantly and uniquely designed, and, as a theatrical souvenir, it is likely to be highly prized by collectors of such material. Send to the advertising department of Proctor's Fifth Avenue Theatre for one.

Mr. F. F. Proctor last week returned from a two months' outing, enjoyed mainly in Lakewood, Atlantic City, Philadelphia, etc., and is now automobiling in the vicinity of Westchester County. Late this month, Mr. Proctor will go from his city residence to his beautiful villa at Larchmont Manor, where he will remain for about six weeks, prior to another extended automobile tour—this time through New England as far as the Maine coast.

Mr. Proctor's theatre at Albany has recently undergone extensive alterations, and the old playhouse, which has put forward only the best dramatic and vaudeville stars for the past thirty years, now ranks up to date in decorations and comfort. It is one of those houses wherein each and every employe feels that the prosperity of the theatre rests upon his shoulders For this reason every branch of each man's respective duties, be he manager or call boy, is carried out to the most minute detail. No wonder business at Albany is always good when it is done on this scale.

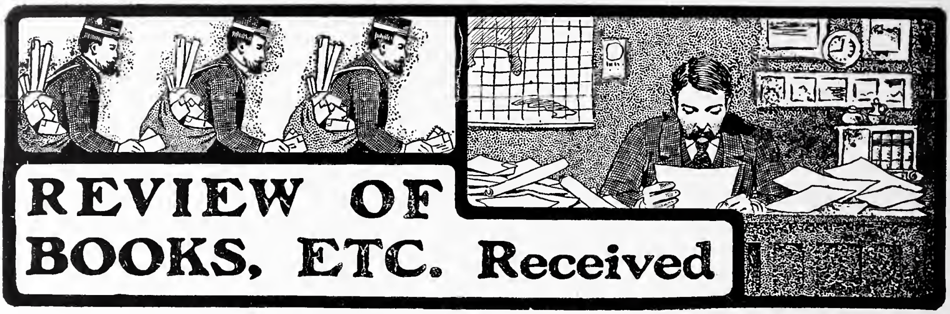
Down among the shoppers of Twenty-third Street, where the name "Proctor's" is as refreshing to the tired pedestrians as water to a dying man, the Summer schedule has been laid out to satisfy the wants of Mr. Proctor's patrons. The theatre is now being fitted with cold storage pipes, which will insure cool temperature even on the hottest days. The show bills have been booked well ahead, and only the newest and best novelties will be shown this season.

Photo by Strauss.



PORTRAIT. By Frank E. Marks.

J. C. Strauss.



REVIEW OF BOOKS, ETC. Received

Wasser-Spiegelbilder (Water Reflection pictures) is the title of a neat little pamphlet with 12 illustrations, by Dr. P. Salcher, and published by Wilh. Knapp, Halle a/s.

It is intended as a guide for draughtsmen, artists and photographers. Price, mark 1.50.

Aide Memoire de Photographie for 1903. Edited by C. Fabre. A neat little almanac, published yearly since 1876, by Gauthier-Villars.

It contains a resumé of the progress made in the various branches of photography during the year 1903. Price, 1 fc , 25 cents.

Der Gummidouck (direct pigment printing), 2d edition, by John Gaedicke, and published by Gustav Schmidt, Berlin.

To the lovers and promoters of this process this book has undoubtedly been a valuable guide, and in the new edition particular consideration is taken with regard to the application of katatypy for this process. The book is printed in the German language. Price, mark 2.50.

Systeme de Sensitometric des Plaques Photographiques, by Dr. J. M. Eder, translated from the German by Edouard Belin, and published by Gauthier-Villars, Paris.

The original German edition is the most elaborate work on Sensitometry ever written, and its French companion will undoubtedly meet with a hearty reception in France. The price is 3 fcs., 75 cents.

Die Trockenplatts (the dryplate), its properties and its treatment in photographic praxis, by Dr. Lüppo-Cramer. Published by Gustav Schmidt, Berlin.

The book contains not exactly anything new, but Dr. Lüppo-Cramer's practical as well as theoretical studies of the nature of the dry plates in its different stages, described here, explain undoubtedly many points which have remained dark to many photographers and amateurs. Price, mark 2.50.

Lehrbuch der Mikrophotographie (text book of Microphotography), with remarks about Enlargements and Projection, by Dr. Karl Kaiserling. Published by Gustav Schmidt, Berlin.

Treating on a special branch of photography, the work is principally of great interest to the medical student and to the student of natural history. It has 54 descriptive illustrations, printed in text, and deserves to be recommended. Price, mark 4.50.

Die photographischeKunst (photographic art) in 1902. A year book for artistic photography. Edited by F. Matthies-Masuren and published by Wilhelm Knapp, Halle a/s Germany.

This is a unique publication, in large quarto, consisting of a selection of about 150 photographic prints, which have appeared during the past year in the "Photographische Centralblatte," with accompanying text from well known authors like Dr. Miethe, Baron Heibb, Dr. Henneberg, Kalkschmidt and others. The pictures consist of contributions from Germany, England, France, Belgium and the United States.

The price is mark 8.

Pictorial Composition and the Critical Judgment of Pictures, by Henry R. Poore. The Baker & Taylor Co., New York. Cloth, $1.50.

This is without doubt one of the most instructive and entertaining books ever written on the subject of pictorial composition. The author states in his introductory: "This volume is addressed to three types of art workers: the student of painting, the amateur photographer, and the professional artist." * * * * * "To the student and the amateur, therefore, it must be said this is not a 'how to do' book. The number of these is legion." * * * * * "It is the best wish of the author that photography, following painting in her essential principles as she does, may prove herself a well met companion along art's highway—seekers together at arms length, and in defined limits of the same goal."

The most important topic of "balance" is treated upon at length by the author and this chapter is so sub-divided and illustrated that the student is compelled to comprehend and what is more important *to remember* the many vital and valuable points.

From cover to cover this book is replete with instruction and entertainment and is fully worthy of an honorable place in the library of every artist, be he painter or photographer.

NOTE.—We shall be pleased to publish letters on subjects of interest, but do not hold ourselves responsible for the opinions of correspondents.

THE STRAUSS-STIEGLITZ CONTROVERSY.

NEW YORK, May 22, 1903.

Editor of THE PHOTOGRAPHIC TIMES-BULLETIN:

Dear Sir: On reading carefully the communications from Mr. J. C. Strauss and Mr. Alfred Stieglitz, which appeared in your May issue, I am strongly impressed with the fact that Mr. Strauss appears to have by far the better of the argument. In fact his reasoning seems to prevail at practically every point; while Mr. Stieglitz either ignores the arguments of Mr. Strauss or ingenuously evades them.

For instance, Mr. Stieglitz, in an evident attempt at sarcasm, classes Mr. Strauss and those who sympathize with him, with the "American Institute and the New Zealand Camera Club;" while he assumes that he and his associates alone represent the pictorial photographers at the present time. He admits that he is writing from "an uninformed and one-sided standpoint," and refers to himself and Mr. Caffin and others as "immodest," but he does not intend to be taken seriously, of course.

Now the trouble with Mr. Stieglitz and most of his associates is, that they take *themselves* so seriously and seem to be so lacking in any sense of humor that they lay themselves open to a good deal of ridicule which is unnecessary and undesirable; for it is bringing ridicule upon Photography as a whole, as well as upon themselves. They have constituted themselves into a kind of mutual admiration society and have been praising each other so seriously and enthusiastically that they have come to think that every one else is taking them in the same serious and enthusiastic manner and accepting them on their own estimate.

As a matter of fact, what Mr. Stieglitz calls an "insignificant minority," in the same sarcastic way, above alluded to, is in reality just that very thing—an "insignificant minority." He mentioned just thirty-one names including *himself*, and in so doing pretty nearly completed the list! Mr. Stieglitz seems to forget that there are thousands of amateur photographers who are doing serious work, who never exhibit in the public exhibitions or in any other way make known what they are doing. Mr. Stieglitz is speaking for a little clique which has assumed a position of leadership, which it occupies only in its own estimation and in that of a few of its imitators. Not all the individuals composing this group are characterized by this self assumption, it is true; but they are unfortunate in their spokesmen, and the result is, that the real merit of much of their work is lost sight of in the antagonism which they excite and the prejudices which they create by the unfortunate way in which their representatives and spokesmen speak for them. Thus it is that, while many of them are honestly endeavoring to advance photography along pictorial lines they seriously interfere with its real and permanent advancement.

Very truly yours,

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ACROSS THE BAY IN WINTER. By W. H. Porterfield.

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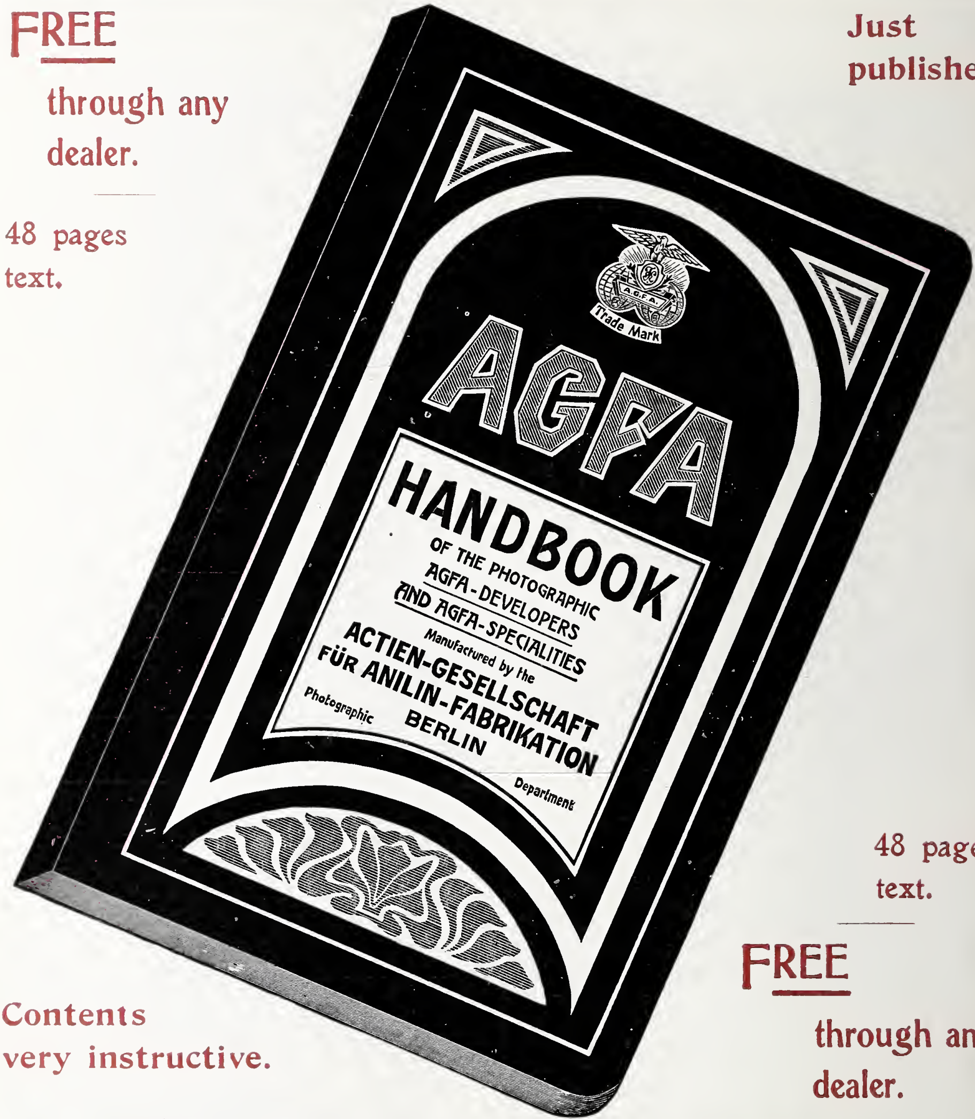

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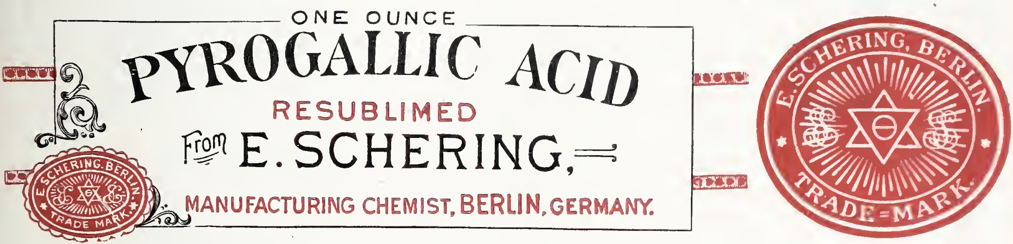

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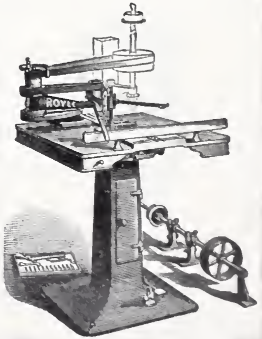

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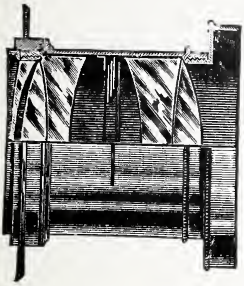

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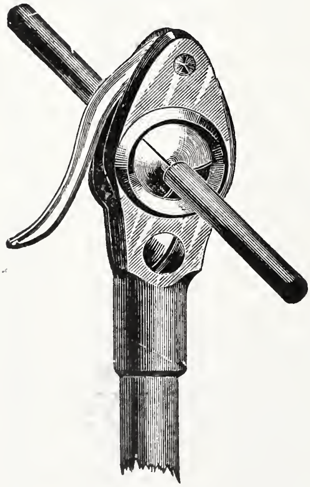

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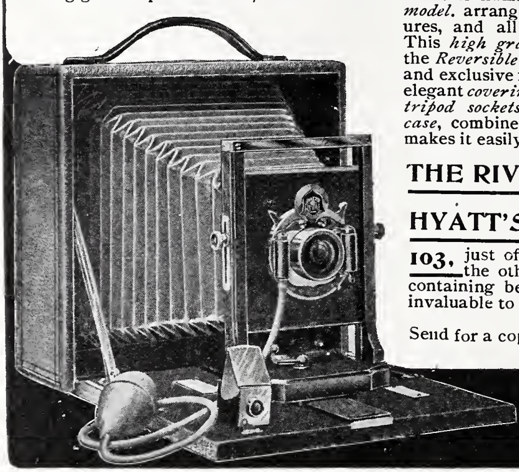

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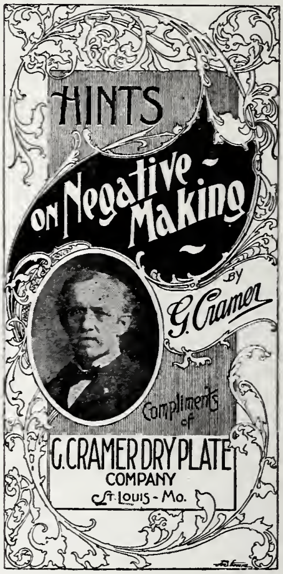

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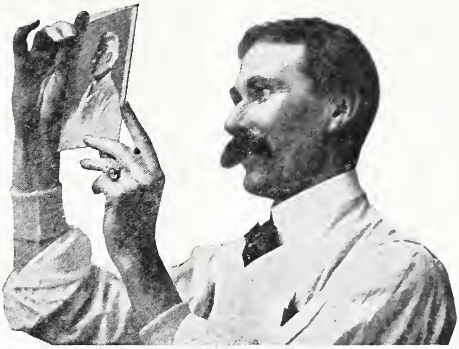

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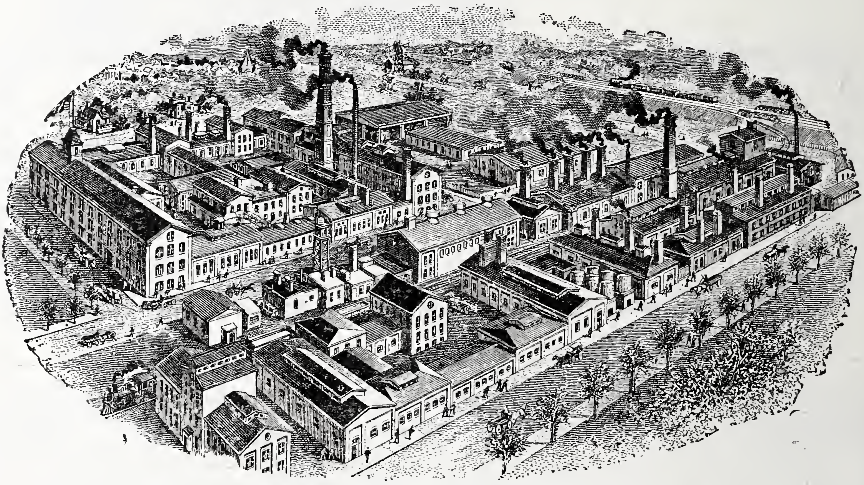

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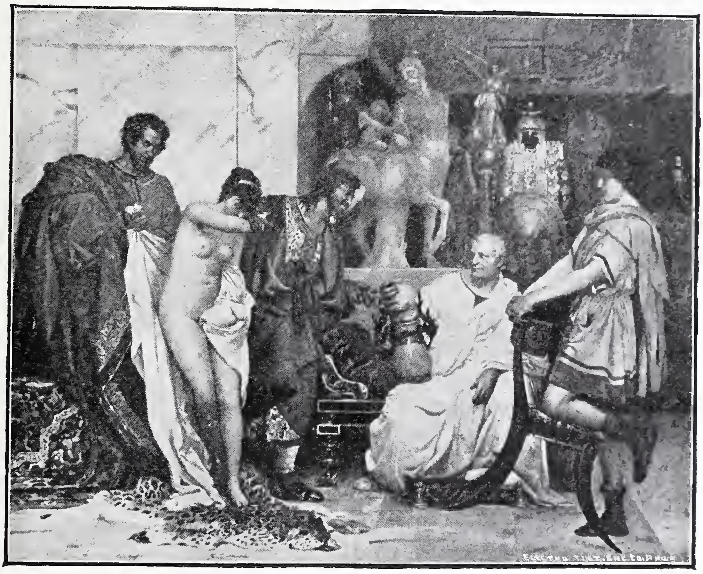

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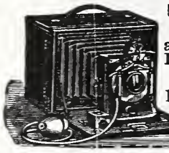

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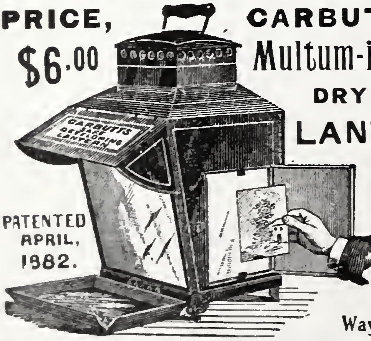

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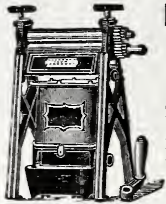

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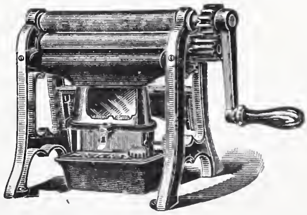

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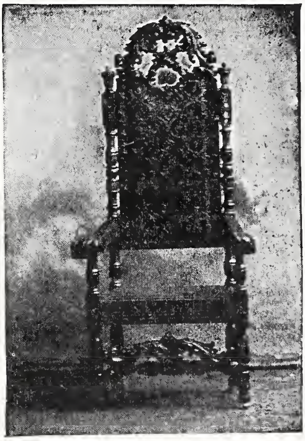

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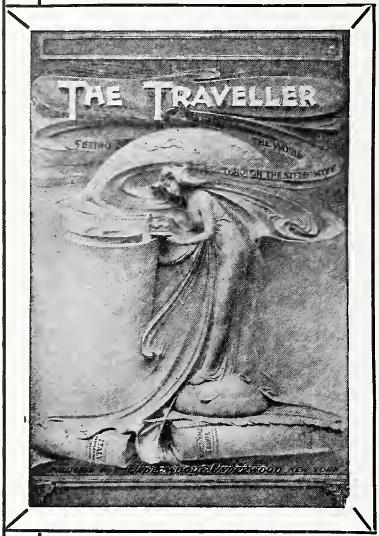

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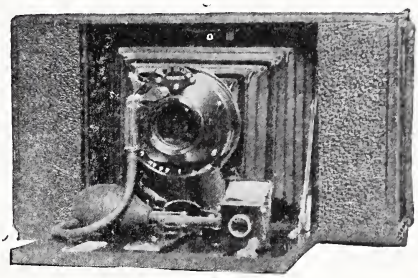

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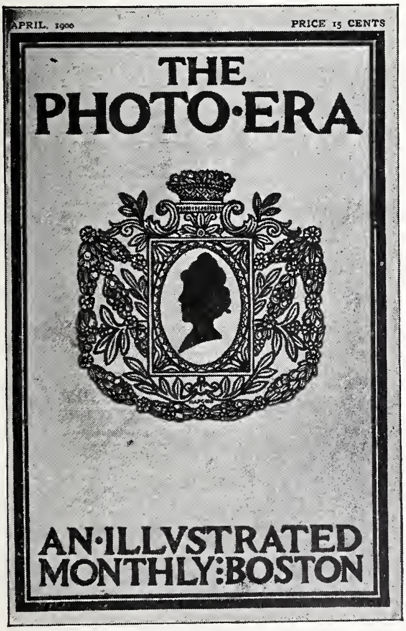

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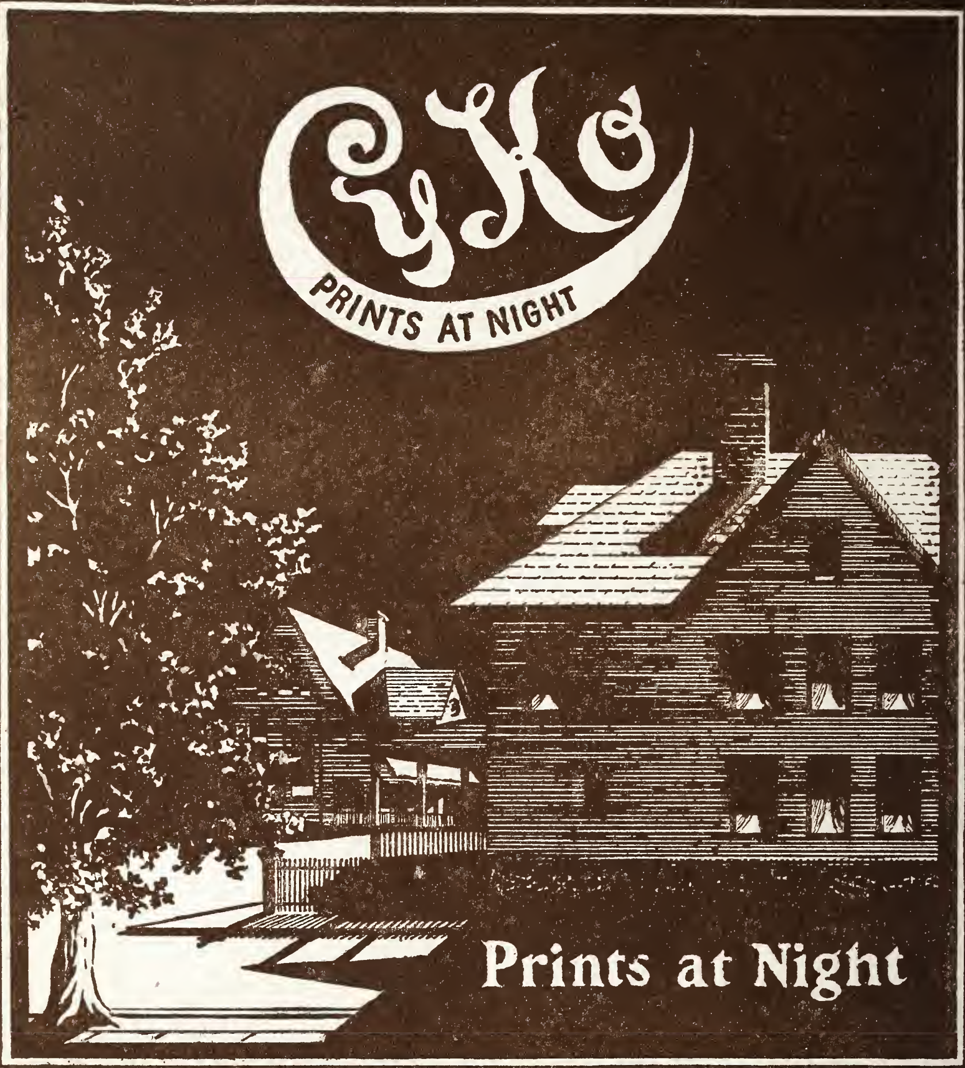

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